ROSETTA PLASMA CONSORTIUM
USERS' MANUAL
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Compiled by:

Raymond Hoofs
ESTEC Noordwijk

Michael Ludlam, Dr. Chris.Lee
IC London

Dr. Ingo Richter
IGM TU-BS

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Documentation Change Record

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Acronym List

Acronym	Description
A/D	Analog/Digital
A/R	As Required
AAD	Attitude Anomaly Detector
AC	Alternate Current
ACID	Application Configuration Interface Data
ACK	Acknowledge
ACM	Active Cruise Mode
ACS	Avionics Computer System
ACS	Attitude Control System
ACU	Attitude Control Unit
AD	Applicable Document
ADC	Analog to Digital Converter
ADD	Architectural Design Document
ADP	Acceptance Data Package
AFM	Asteroid Flyby Mode
AIT	Assembly Integration Tests
AIU	AOCMS Interface Unit
AIV	Assembly, Integration and Verification
AIV	Activity of Integration and Validation
ALICE	ORBITER PAYLOAD INSTRUMENT
ALS	Alenia Spazio
AM	Activation Mode
AME	Absolute Measurement Error
AND	Alphanumeric Display
ANSI	American National Standards Institute
AO	Announcement of Opportunity
AOCMS	Attitude & Orbit Control Measurement System
AOCS	Attitude & Orbit Control System
AOS	Acquisition Of Signal
AOU	Astronomical Observatory Uppsala
APE	Absolute Pointing Error
APID	Application Process Identifier
APM	Antenna Pointing Mechanism
APXS	LANDER PAYLOAD INSTRUMENT
AQP	Acquisition Period
AS	Address State (1750 Processor)
ASA	Austrian Space Agency
ASF	Additional Safety Factors
ASI	Agenzia Spaziale Italiana
ASIC	Application Specific Integrated Circuit
ATA	Alignment Test Adapter
ATP	Approach Transition Point
AU	Astronomical Unit
AWG	American Wire Gauge

BB	Broad Band
BC	Bus Controller
BCP1	Broadcast Command Pulse 1 (Pulse at 1/8 Hz on OBDH bus)
BCU	Battery Charge Unit
BDR	Battery Discharge Regulator
BDU	Batery Discharge Unit
BER	Bit Error Rate
BERENICE	ORBITER PAYLOAD INSTRUMENT
BFL	Back Focal Length
BIT	Build In Test
BL	Block Length, LAP
BMOS	Buckling Margin Of Safety
BOB	Break Out Box
BOL	Beginning of Life
BPS	Bits per second
BRU	Battery Regulator Unit, Battery Recharge Unit
BSM	Bus Support Module
C/C	Collectively Controlled
CA	Contract Authorisation
CADU	Channel Access Data Unit
CAP	Comet Acquisition Point
CAPS	Cassini Plasma Spectrometer
CAV	Command Acceptance Verification
CC	Cost Code
CCB	Configuration Control Board
CCCS	Common Checkout & Control System
CCD	Charged Coupled Device
CCDB	Configuration Control Database
CCE	Central Checkout Equipment
CCITT	Consultative Committee International Telegraph & Telephone
CCN	Change Contract Notice
CCR	Configuration Control Request
CCS	Central Check-out System
CCSDS	Consultative Committee for Space Data Systems
CCU	Central Computing Unit
CDC	Clock Drift Correction
CDMS	Central Data Management System
CDMS	Control and Data Management Subsystem (Sub-Assembly)
CDMU	Central Data Management Unit
CDR	Critical Design Review
CDV	Command Dispatch Verification
CE	Conducted Emission
CEPHAG/SA	Centre d'Etude des Phenomenes Aleatoires et Geophysiques/Service d'Aeronomie u CNES
CESR	Centre d'Etude Spatiale des Rayonnements
CEV	Command Execution Verification
CFRP	Carbon Fibre Reinforced Plastic
CGSE	Cryocooling Ground Support Equipment
CHAMPAGNE	LANDER PAYLOAD INSTRUMENT
CHF	Critical History File
CHL	Command History Log
CHM	Critical Housekeeping Unit
CI	Configuration Item

CIA	Communication Interface Adapter
CIDL	Configuration Item Data List
CISAS	Centro Interdipartimentale di Studi e Attività Spaziali
CIVA	Comet nucleus Infrared and Visibility Analyser (Lander Payload)
CLCW	Command Link Control Word
CLTU	Command Link Transmission Unit
CM	Configuration Management
CMD	Command
CMF	Configuration Management Facility
CMO	Configuration Management Officer
CMP	Configuration Management Plan
CNES	Centre Nationale d'Etude Spatiale
COG	Centre Of Gravity
Co-I	Co-Investigator
COM	Centre Of Mass
CONSERT	ORBITER & LANDER PAYLOAD INSTRUMENTs
COP	Command Operations Procedure
COSAC	LANDER PAYLOAD INSTRUMENT
COSIMA	ORBITER PAYLOAD INSTRUMENT
COTS	Commercial Off The Shelf
CPDU	Command Pulse Distribution Unit
CPU	Central Processing Unit
CR	Compression Ratio
CRAF	Comet Rendezvous and Asteroid Fly-by mission
CRB	CCD Readout Board
CRC	Cyclic Redundancy Code
CRF	Command Request Files
CRID	Command Request Interface Document
CRMA	Consolidated Report on Mission Analysis
CRP	Contingency Recovery Procedure
CRV	Command Station Reception Verification
CS	Conducted Suszeptibility
CSG	Centre Spatiale Guyanaise
CSM	Communication Switching Matrix
CSME	Communication Switching Matrix Element
CSP	Carge Senisitive Preamplifier
CSV	Command Station Radiation Verification
CSY	Converter Synchronisation
CTC	Cost to Completion
CUC	CCSDS Unsegmented Time Code
CUV	Command Uplink Verification
CVP	Commissioning and Verification Phase
D/TOS	Directorate of Technical and Operational Support
DARA	Deutsche Agentur für Raumfahrtangelegenheiten
DAT	Digital Analog Tape
DB	Database
DBMS	Data Base Management System
DC	Data Centre
DC	Direct Current
DCA	Dedicated Control Area
DCL	Declared Components List
DCR	Document Change Request
DCR	Data Change Request

DCR	Dedicated Control Room
DCS	Dust Collector Subsystem (COSIMA)
DCT	Discrete Cocine Transform
D&D	Design and Development
DDD	Detailed Design Document
DDID	Data Delivery Interface Document
DDS	Data Distribution System
DDV	Design Development and Verification
DFMS	Double Focusing Mass Spectrometer
DIB	DPU Interface Board
DISR	Descent Imager/Spectral Radiometer
D/L	Down Link
DLR	Deutsche Forschungsanstalt fhr Luft und Raumfahrt e.V.
DM	Dynamic Model
DMA	Direct Memory Access
DML	Declared Materials List
DML	Delayed Memory Load command
DMPL	Declared Mechanical Parts List
DMS	Data Management System
DMSS	Distributed Mission Support System
DoD	Depth of Discharge
DOF	Degree Of Freedom
DOP	Division Operating Procedures
DOR	Direct Operation Request
DPL	Declared Process List
DPSS	Data Packet Switching System
DPU	Data Processing Unit
DQE	Detector Quantum Efficiency
DRAM	Dynamic Random Access Memory
DRB	Delivery Review Board
DS	Digital Serial Aquisition
DSN	Deep Space Network
DSP	Digital Signal Processor
DSS	Dornier Space Systems
DST	Deep Space Transponder
DTMM	Detailed Thermal Mathematical Model
DWG	Drawing
DWT	Discrete Wavelet Transform
ECDR	Experiment Critical Design Review
ECF	Expedited Command File
ECP	Executable Control Procedures
ECR	Expedite Command Request
ECR	Engineering Change Request
EDAC	Error Detection And Correction
EDC	Error Detection Correction
E-DSF	Expedite - Detailed Schedule File
EE	External Entity (SCOE)
EEPROM	Electrically Erasable Programmable Read Only Memory
EFDR	Experiment Final Design Review
EFOR	Experiment Flight Operations Review
EGSE	Electrical Ground Support Equipment
EID	Experiment Interface Document
EID	Event Identification

EIDR	Experiment Intermediate Design Review
EIRP	Equivalent Isotropic Radiated Power
EM	Engineering Model
EMC	ElectroMagnetic Compatibility
EMI	ElectroMagnetic Interference
EOC	End of Cycle
EOL	End of Life
EOP	End of Packet
EPC	Electrical Power Conditioner
EPS	Electrical Power Subsyste
EQM	Electrical Qualification Model
ERF	Event Reporting Function
ESA	European Space Agency
ESA	Electrostatic Analyzer
ESANET	European Space Agency's communications Network
ESARAD	ESA RADiation
ESATAN	ESA Thermal Analyser
ESD	Electrostatic Discharge
ESDS	Electrostatic Discharge Sensitive
ESM	Earth Strobing Mode
ESOC	European Space Operations Centre
ESS	Electrical Support System
ESTEC	European Space Research and Technology Centre
ESTRACK	European Space Tracking Network
ETS	EMC Test Station
EUT	Equipment under Test
EUV	Extreme Ultra Violet
F/D	Flight Dynamics
FAR	Flight Acceptance Review
FAU	File Assembly Unit
FAT	Factory Acceptance Test
FCL	Fold-Back Current Limiter
FCP	Flight Control Procedure
FCS	Flight Control System
FCT	Flight Control Team
FCV	Flow Control Valve
FD	Flight Dynamics
FD	Frequency Domain
FDIR	Failure Detection, Isolation and Recovery
FDR	Flight Dynamics (Control) Room
FDR	Functional Design Review
FDR	Flight Dynamics Request
FDS	Flight Dynamics System
FE	Front End
FEC	Front End Controller
FEE	Front End Equipment
FE-LAN	Front-End Local Area Network
FEM	Finite Element Model
FF	Full Frame
FID	Function Identifier
FIFO	First In First Out
FITO	Fabrication and Test Outline
FM	Flight Model

FM	File Management
FMECA	Failure Mode Effect and Criticality Analysis
FMI	Finnish Meteorological Institute
FMS	Failure Management system
FMS	File Management System
FOD	Flight Operations Director
FOP	Flight Operations Plan
FOP	Flight Operation Procedure
FOV	Field Of View
FP	Formal Procedures
FPA	Focal Plane Assembly
FPGA	Field Programmable Gate Array
FRR	Flight Readiness Review
FS	Flight Spare
FT	File Transfer
FTA	Fault Tree Analysis
FTP	File Transfer Protocol
FUSE	Far Ultraviolet Spectrograph Experiment
FUV	Far Ultra Violet
FWM	Filter Wheel Mechanism
G/S	Ground Station
GFURD	Ground Facilities User Requirements Document
GH	Grand Heading
GIADA	Grain Impact Analyser and Dust Accumulator (Orbiter Payload)
GMI	Global Mapping Injection point
GMI	Global Mapping Insertion
GMT	Greenwich Mean Time
GPIB	General Purpose Instrument Bus (IEEE 488-75)
GPR	Ground Penetrating Radar
GRD	Graphic Display
GRM	Ground Reference Model
GS	Ground Station
GSDR	Ground Segment Design Review
GSE	Ground Support Equipment
GSIR	Ground Segment Implementation Review
GSIS	Ground Station Interface Specification
GSM	Ground Segment Manager
GSMP	Ground Segment Management Plan
GSOC	German Space Operations Centre
GSRQR	Ground Segment Requirements Review
GSRR	Ground Segment Readiness Review
GW	Gravitational Waves
H/W	Hardware
HDBK	Handbook
HDR	Hardware Design Review
HF	High Frequency
HFC	High Frequency Clock
HGA	High Gain Antenna
HGAPM	HGA Pointing Mechanism
HIB	Hibernation
HIPPS	Highly Integrated Pluto Payload System
HK	Housekeeping
HL	High Limit

HM	Hibernation Mode
HMC	Halley Multicolour Camera
HOOD	Hierarchical Object Oriented Design
HPA	High Power Amplifier
HPC	Hight Power Command
HPCM	HPC Module
HPD	High Performance Demodulator
HRM	Holddown & Release Mechnism
HSD	High Speed Data
HTCB	Handling Transport Clamp Band
HV	High Voltage
HVPS	High Voltage Power Supply
I/C	Individually Controlled
I/F	Interface
I/O	Input/Output
I&T	Integration & Testing
IAA	Instituto de Astrofisica de Andalucia
IAS	Institute d'Astrophysipue Spatiale
IAS-CNR	Istituto di Astrofisica Spaziale/Consiglio Nazionale delle Richerche
IB	Inboard
I-BOB	Intelligent Break Out Box
ICA	Ion Composition Analyser (RPC)
IC	Imperial College, London
ICD	Interface Control Document
ID	Identifier
IDA	Institut für Datenverarbeitungsanlagen
IDR	Instrument Design Review
IEEE	Institute of Electric and Electronics Engineers
IES	Ion and Electron Sensor (RPC)
IF	Intermediate Frequency
IFEM	Interface Finite Element Model
IFOV	Intrinsic Field Of View
IMMM	Interface Mechanical Mathematical Model
IMP	Imager for Mars Pathfinder
INTA	Instituto Nacional de Tecnica Aerospacial
I/O	Input / Output
IQR	Internal Quality Report
IR	Infra Red
IS	Impact Sensor (GIADA)
ISO	International Standards Organisation
IST	Integrated System Test
IT	Integration Test
IT	Interruption
ITMM	Interface Thermal Mathematical Model
ITP	Integration Test Plan
ITR	Integration Test Report
ITT	Invitation To Tender
IUE	Internal Ultraviolet Explorer
IWF	Institut für Weltraumforschung, Graz
JPEG	Joint Photographics Experts Group
JPL	Jet Propulsion Laboratory
KAL	Keep Alive Line
KAU	Kilo Accounting Units

KBPS	Kilo-Bits Per Second
KFKI	Hungarian Research Institute for Particle and Nuclear Physics
KO	Kick Off
L	Launch (time)
LAN	Local Area Network
LAP	Langmuir Probe (RPC)
LAS	Laboratoire d'Astronomie Spatiale
LCB	Last Chance Bit
LCDA	Launcher Coupled Dynamic Analysis
LCL	Latching Current Limiter
LDL	Long Debye Length (LAP/MIP Mode)
LEOP	Launch and Early Orbit Phase
LESS	Lander Electrical Support System
LET	Linear Energy Transfer
LF	Low Frequency
LGA	Low Gain Antenna
LID	Lander Interface Document
LIFO	Last In First Out
LIGA	Lithographie, Galvanoformung und Abformung
LILT	Low Intensity Low Temperature
LISN	Line Impedance Stabilization Network
LIT	Listen-In Test
LL	Low Limit
LM	Launch Mode
LMSS	Lander Mechanical Support and Separation systems
LNA	Low Noise Amplifier
LO	Local Oscillator
LOR	Lander Operational Request
LOS	Loss Of Signal
LOS	Line Of Sight
LPCE	Laboratoire de Physique et Chimie de l'Environnement
LRR	Launch Readiness Review
LSB	Least Significant Bit
LSI	Large Scale Integration
LU	Latch Up
LV	Latch Valve
LVPS	Low Voltage Power Supply
LW	Launch Window
M&C	Monitoring and Control
MAC	Model Assurance Criterion
MACS	Modular Attitude Control System
MAG	Fluxgate Magnetometer (RPC)
MAP	Multiplexing Access Point
MAS	Mission Analysis Section
MB	Measurement Block
MBS	Micro Balance Sensor (GIADA)
MC	Measurement Cycle
MCM	Monitoring and Control Module
MCM	Multi Chip Module
MC-OCF	Master Channel – Operational Control Field
MCP	Micro Channel Plate
MCR	Main Control Room
MCR	Memory Checksum Request

MCRR	Mission Commissioning Results Review
MCS	Mission Control System
MDR	Memory Dump Request
MGA	Medium Gain Antenna
MGM	Magnetometer
MGSE	Mechanical Ground Support Equipment
MICD	Mechanical Interface Control Document
MID	Memory Identifier
MIDAS	ORBITER PAYLOAD INSTRUMENT
MINT	Monitoring Interval
MIP	Mission Implementation Plan
MIP	Mutual Impedance Probe (RPC)
MIP	Mandatory Inspection Points
MIRD	Mission Implementation Requirements Document
MIRO	Microwave Instrument for the Rosetta Orbiter (Orbiter Payload)
ML	Memory Load, Medium Level
MLC	Memory Load Command
MLI	Multi Layer Insulation
MM	Mass Memory
MM	Memory Management
MMB	Mass Memory Board
MMD	Mimic Display
MMH	Mono Methyl Hydrazine, (MMH-LTO)
MMI	Man Machine Interface
MMS	Matra Marconi Space
MMS-B	Matra Marconi Space (Bristol)
MMS-H	Matra Marconi Space (Stevenage)
MMS-T	Matra Marconi Space (Toulouse)
MMU	Memory Management Unit
MOC	Mission Operations Centre
MOD	Mission Operations Department
MODULUS	LANDER PAYLOAD INSTRUMENT
MOI	Moment Of Inertia
MOP	Mission Operations Phase
MOS	Margin Of Safety
MOU	Memorandum Of Understanding
MPA	Mission Planning Area
MPAE	Max Planck Institut für Aeronomie
MPI	Max Planck Institut
MPIK	Max Planck Institut für Kernphysik
MPP	Multiple Phase Pinning
MPPT	Maximum Power Point Tracking
MPR	Memory Patch Request
MPS	Mission Planning System
MPTS	Multi Purpose Tracking System
MRB	Material Review Board
MRT	Mission Readiness Test
MSB	Most Significant Bit
MSDR	Mission System Design Review
MSP	Master Science Plan
MSS	Mechanical Support and Separation system
MST	Mission Simulation Test
MSSW	Mission Specific Software

MTL	Mission Timeline
MTTR	Mean Time To Repair
MUPUS	Multi Purpose Sensor experiment (Lander Payload)
MUSC	Microgravity User Support Centre
MUX	Multiplexer
N/A	Not Applicable
NAC	Narrow Angle Camera
NACK	Not Acknowledge
NASA	National Aeronautics and Space Administration
NASAPSCN	NASA Private System Communication Network
NASTRAN	NASA Structural Analysis Tool
NAVCAM	Navigation Camera
NB	Narrow Band
NC	Non Conformity
NCM	Near Comet Mode
NCR	Non Conformance Report
NCTRS	Network Control and Telemetry Receiver System
NDIU	Network Data Interface Unit
NDM	Neutral Dynamics Monitor
NF	Normal Frequency
NM	Normal Mode
NOCC	Network Operations Control Centre (JPL)
NRT	Near Real Time
NRZ-L	Never Return to Zero-Level
NTO	Nitrogen Tetroxide
OA	Operational Archive
OAP	Off Axis Paraboloid
OB	Onboard
OB	Outboard
OBC	On-Board Computer
OBC	On-Board Clock
OBCP	On-Board Control Procedure
OBDH	On-Board Data Handling
OBEM	On-Board Event Monitoring
OBS	On-Board Software
OBSM	On-Board Software Maintenance
OBSW	On-Board Software
OBT	On-Board Time
OC	Output Code
OC	Open Centre
OCC	Operations Control Centre
OCM	Orbit Control Mode
OCXO	Oven Controlled Crystal Oscillator
OD	Operations Director
OHP	Observatoire d'Haute Provence
OIOR	Orbiter Instrument Operational Request
OIP	Orbit Injection Point
OM	Operations Manager
OMM	Operational Macro Mode
OOL	Out Of Limits
OPI	Orbiter Payload Instrument
OPS	Operations
ORATOS	Orbit Attitude Operations System

ORS	Operation Request Structure
OSI	Open System Interconnection
OSIRIS	Optical, Spectroscopic and Infrared Remote Imaging System (Orbiter)
OU	Open University
P/B	Play Back (data from Solid State Recorder)
P/L	Payload
PA	Product Assurance
PAD	Padding (to a good block length modulo packet length, integer packets only, LAP)
PAIP	Product Assurance Implementation Plan
PALASIM	Parallel Access Large Silicon Memory
PC	Project Control
PCA	Pressure Controlled Assembly
PCB	Printed Board Circuit
PCE	Power Controller Electronics
PCM	Pulse Code Modulation
PCM	Power Converter Module
PCS	Packet Check Sequence
PCU	Power Control Unit
PDF	Product Definition File
PDL	Pseudo Design Language
PDR	Preliminary Design Review
PDS	Planetary Data System
PDU	Power Distribution Unit
PEM	Project Element Manager
PEM	Plasma Environment Monitor
PES	Performance Evaluation System
PFC	Parameter Format Code
PFM	Proto Flight Model
PHD	Project History Documents
PI	Principal Investigator
PID	Parameter Identifier
PID	Process Identifier
PIR	Post Integration Review
PISA	Principal Investigators Support Area
PIU	Plasma Interface Unit (RPC)
PKT	Packet
PLM	Payload Module
PM	Project Manager
PM	Processing Module
PMD	Propellant Management Device
PMIS	Project Management Information System
PMP	Part Material and Process
PMU	Processor Module Unit
POR	Payload Operation Request
PPWR	Primary Power
PRNU	Pixel Response Non Uniformity
PROM	Programmable Read Only Memory
PRR	Propellant Refillable Reservoir
PS	Pass Schedule
PSF	Point Spread Function
PSK	Phase Shift Key
PSM	Payload Support Module

PSR	Project Support Room
PSR	Processor Status Registers
PSRI	Planetary Science Research Institute
PSS	Portable Satellite Simulator
PSS	Procedures, Specifications and Standards
PSS	Programme System Standards
PSU	Power Supply Unit
PT	Product Tree
PTC	Parameter Type Code
PTR	Pointing Requirement File
PTT	Post, Telegraph and Telephone authority
PTV	Pre-Transmission Validation
PUS	Packet Utilisation Standard
PVNC	Pyro Valve Normally Closed
PVNO	Pyro Valve Normally Opened
QA	Quality Assurance
QAE	Quality Assurance Engineer
QAM	Quality Assurance Management
QAPM	Quality Assurance Procedures Manual
QC	Quality Control
QPM	Quality Policy Manual
QTR	Qualification Test Review
R&D	Research & Development
R/T	Real Time (system)
RAF	Return All Frames
RAL	Rutherford Appleton Laboratory
RAM	Random Access Memory
RAMS	Reliability, Availability, Maintainability and Safety
RBW	Resolution Band Width
RC	Responsibility Code
RC	Remote Computer
RCCCS	Rosetta Common Checkout & Control System
RCS	Reaction Control Subsystem
RD	Reference Document
RDB	Rosetta Database
RDDD	Rosetta Database Definition Document
RDDS	Rosetta Data Disposition System
RDM	Raw Data Medium
RDVM	Rendezvous Maneuvre
RE	Radiation Emission
RF	Radio Frequency
RF S/S	Radio Frequency Subsystem (TT&C S/S)
RFC	Request For Change
RFC	Radio Frequency Self Compatibility
RFD	Request for Deviation
RFDU	Radio Frequency Distribution Unit
RFI	Radio Frequency Interface
RFMU	Radio Frequency Mock-Up
RFW	Request For Waiver
RH	Radiation Hardened
RID	Review Item Discrepancy
RIS	Remote Imaging System
RISC	Reduced Instruction Set Computer

RL	Register Load
RLA	Register Load Address
RLG	Ring Laser Gyro
RLGS	Rosetta Lander Ground Segment
RM	Reconfiguration Module
RMCS	Rosetta Mission Control System
RMOC	Rosetta Mission Operations Centre
RNCTRS	Rosetta Network Control & Telemetry Receiver System
ROIRD	ROSETTA Operations Interface Requirements Document
ROLIS	LANDER PAYLOAD INSTRUMENT
ROM	Read Only Memory
ROMAP	Rosetta Magnetic Field and Plasma experiment (Lander Payload)
ROSINA	Rosetta Orbiter Spectrometer for Ion and Neutral Analysis (Orbiter Payload)
ROSIS	ROSETTA Spacecraft Interface Simulator
RP	Rundown Phase
RPC	Rosetta Plasma Consortium (Orbiter Payload)
RPE	Relative Pointing Error
RPM	Remote Processing Module
RRP	Rate Reduction Phase
RPRO	ROSETTA Common Packetized Protocol
RSDB	ROSETTA System Database
RS	Radiated Susceptibility
RSI	Radio Science Investigation (Orbiter Payload)
RSOC	Rosetta Science Operations Centre
RSS	Root Sum Square
RT	Real Time
RT	Remote Terminal
RTC	Real Time Clock
RTM	Reduced Thermal Model
RTMM	Reduced Thermal Mathematical Model
RTOF	Reflectron Time Of Flight
RTU	Remote Terminal Unit
RWA	Reaction Wheel Assembly
RWL	Reaction Wheel
RX	Receiver
S/A	Solar Array
S/C	Spacecraft
S/HM	Safe / Hold Mode
S/S	Subsystem
S/W	Software
SA	Solar Array
SAA	Solar Aspect Angle
SADM	Solar Array Drive Mechanism
SAM Sun	Sun Aquisition Mode
SAP	Sun Aquisition Phase
SAP	Science Activity Plan
SAS	Sun Aquisition Sensor
SASW	Standard Application Software
SBDC	Standard Balanced Digital Link
SCET	Spacecraft Elapsed Time
SCL	Spacecraft Control Language
SCOE	Spacecraft Check Out Equipment
SCP	Sun Capture Phase

SDB	Satellite (Spacecraft) Data Base
SDD	System Design Document
SDE	Software Development Environment
SDID	Station Data Interchange Document
SDR	System Design Review
SE	System Engineer
SECDED	(16,22) Hamming Single bit for Error Correcting code
SEL	Single Event Latchup
SEPAC	Space Experiment with Particule Accelerator
SESAME	LANDER PAYLOAD INSTRUMENT
SEU	Single Event Upset
SF	Safety Factor
SFDU	Standard Formatted Data Unit
SFT	System Functional Test
SGICD	Space Ground Interface Control Document
SGM	Safeguard Memory
SI	Silicon
SID	Structure Identifier
SIM	Simulator
SIMSAT	Software Infrastructure for Modelling SATellites
SIR	Simulation Room
SIS	Spacecraft Information System
SIS	Spacecraft Interface Simulator
SIV	Software Independent Validation
SKM	Sun Keeping Mode
SLE	Space Link Extension
SM	Structural Model
SMCS	Scaleable Multi-Channel Communication Subsystem
SMD	Surface Mounted Device
SNR	Signal to Noise Ratio
SOC	Science Operations Centre
SOHO	Solar & Heliospheric Observatory
SOM	Spacecraft Operations Manager
SOR	Spacecraft Operation Request
SOT	Science Operations Team
SOW	Statement of Work
SPACON	Spacecraft Controller
SPB	Superpixel Binning
SPC	Science Programme Committee
SPD	Space Division
SPG	Single Point Ground
SPL	Scenario Parameter List
SPEVAL	Spacecraft Performance Evaluation System
SpM	Sin-up Mode
SPP	Sun Point Phase
SPR	Software Problem Report
SPT	Specific Performance Test
SPWR	Secondary Power
SQA	Terma Space Division Quality Assurance
SR	Software Requirements
SRD	Software Requirements Document
SREM	Standard Radiation Environment Model
SRR	Subsystems Requirements Review

SSC	Status Consistency Checking
SSD	Space Science Department
SSMM	Solid State Mass Memory
SSP	Surface Science Package
SSPA	Solid State Power Amplifier
SSR	Solid State Recorder
STC	Station Computer
STIL	Irish Space Technology Institute
STM	Structural Thermal Model
STN	Standard
STO	Soyuz Transfer Orbit
STR	Star Tracker
STSP	Solar Terrestrial Science Programme
SUM	Software User Manual
SuM	Survival Mode
SVF	Software Validation Facility
SVM	Service Module
SVT	System Validation Test
SW	Software
SWG	Science Working Group
SWR	Standing Wave Ratio
SWRI	South West Research Institute
SWT	Science Working Team
TBC	To be confirmed
TBD	To Be Defined
TBI	To be Inserted
TBP	Time Broadcast Pulse
TBR	To be resolved
TBS	To be supplied
TBW	To be written
TC	Telecommand
TCDL	Test Configuration Data List
TCDP	Tele Command Detail Parameter
TCGP	Tele Command Global Parameter
TCM	Trajectory Correction Manoeuvre
TCP-IP	Transport Protocol-Internet Protocol
TCS	Test Control System
TCS	Thermal Control Subsystem
TCSL	Test Configuration Status List
TC S/S	Thermal Control Subsystem
TD	Time Domain
TER	Terma Elektronic A.S.
TF	Transfer Function
TFG	Transfer Frame Generator
THA	Transport Handling Adapter
TID	Task Identifier
TIDE	Thermal Ion Dynamics Explorer
TLC	Telcommand
TLM	Telemetry
TM	Telemetry
TMM	Thermal Mathematical Model
TMP	Telemetry Processing System (within ground station)
TOP	Transfer Orbit Phase

TR	Tone Ranging
TRB	Test Review Board
TRP	Test Report
TRP	Temperature Reference Point
TRR	Test Readiness Review
TRRB	Test Readiness Review Board
TSE	Test Support Equipment
TSP	Test Specification
TSY	Timer Synchronisation Pulse
TT&C	Tracking, Telemetry & Commanding
TT&C S/S	Telemetry, Telecommand and Communication Subsystem (RF S/S)
TTC	Tracking, Telemetry & Commanding
TUB	Technical University of Budapest
TUB	Technical University Braunschweig
TUBS	Technical University Braunschweig
TV	Thermal Vacuum
TWTA	Travellling Wave Tube Assembly
TWTL	Two Way Travelling Lighttime
TX	Transmitter
UARS	Upper Atmospheric Research satellite
UD	User Defined
UM	User Manual
UMOS	Ultimate Margin Of Safety
UFT	Unit Functional Test
U/L	Up Link
UPM	Universidad Politecnica de Madrid
URD	User Requirements Document
URF	Unit Reference Frame
USO	Ultra Stable Oscillator
UTC	Universal Time Coordinated
UTC	Universal Time Code
UV	Ultra Violet
UVD	Under Voltage Detector
UVSC	Ultra Violet Spectrometer Component
V&V	Verification & Validation
VC	Virtual Channel
VCA	Virtual Channel Assembler
VCM	Virtual Channel Multiplexer
VDC	Voltage Direct Current
VDU	Video Display Unit
VHDL	VHSIC Hardware Description Language
VHF	Very High Frequency
VHSIC	Very High Speed Integrated Circuit
VIS	Verical Integration Stand
VIMS	Visual Infrared Mapping Spectrometer
VIRTIS	ORBITER PAYLOAD INSTRUMENT
VIS	Visual
VSWR	Voltage Standing Wave Ratio
VT	Validation Test
VTP	Validation Test Plan
VTR	Validation Test Report
W/S	Work Station
WAC	Wide Angle Camera

WAOSS	Wide Angle Optoelectric Stereo Scanner
WBS	Work Breakdown Structure
WBS	Workpackage Breakdown Structure
WCA	Worst Case Analysis
WD	Watch Dog
WDE	Wheel Drive Electronics
WDW	Window
WIU	Wave Guide Interface Unit
WP	Work Package
WPD	Work Package Description
WRT	With Respect To
WTC	Wavelet Transform Coding
WVR	Water Vapor Radiometer
WWW	World Wide Web
YMOS	Yield Margin Of Safety
ZOM	Zero Order Monitor

1.0 General Description

RPC's scientific objectives are far reaching and related to the overall scientific aims of the mission. RPC will perform a detailed examination of the aeronomic processes in the coupled dust/neutral-gas/plasma environment of the inner coma; map the structure of the inner coma, and investigate the thermodynamics and boundaries; the development of cometary activity; the structure of the solar wind interaction region; the formation and development of the cometary tail. In order to realize these investigations, extensive in-situ monitoring of the plasma electrons and ions, their composition, distribution, temperature, density, flow velocity, and the magnetic field is necessary. These anticipated measurements will improve the understanding of the coupling processes of cometary dust, gas, and plasma, as well as its interaction with the solar wind. The plasma and fields measurements thus provide complementary information to that of other Rosetta instruments for a deeper understanding of the overall physics and chemistry of an active comet. However, the ultimate objective of the mission, the comet exploration phase, will only start at the end of 2011 when the Rosetta spacecraft will reach the target comet. In scientific terms, the mission has a range of objectives exploiting the targets of opportunities that are encountered along the mission orbit.

As the RPC instruments are capable of making wellcoordinated observations of the plasma medium in interplanetary space as well as during the planetary and asteroid flybys, the Consortium will be able to carry out scientific investigations during all operational phases.

1.1 Scientific Objectives

The Rosetta Orbiter Plasma Consortium (RPC) will consist of five sensors:

- *Langmuir Probe* *(LAP)*
- *Ion and Electron Sensor* *(IES)*
- *Ion Composition Analyser* *(ICA)*
- *Fluxgate Magnetometer* *(MAG)*
- *Mutual Impedance Probe* *(MIP),*

as well as a joint

- *Plasma Interface Unit* *(PIU)*

acting as instrument control, spacecraft interface, and power management unit.

The scientific objectives are far reaching and related to the overall scientific aims of the ROSETTA mission. It is intended to investigate the following scientific areas of interest:

- *The physical properties of the cometary nucleus and its surface*

Special emphasis will be paid to determine the electrical properties of the crust, its remnant magnetization, surface charging and surface modification due to solar wind interaction, and early detection of cometary activity.

- *The inner coma structure, dynamics, and aeronomy*

Charged particle observation as planned will allow a detailed examination of the aeronomic processes in the coupled dust-neutral gas-plasma environment of the inner coma, its thermodynamics, and structure such as the inner shocks.

- *The development of cometary activity, and the micro- and macroscopic structure of the solar-wind interaction region as well as the formation and development of the cometary tail*

In order to realize these investigations extensive in-situ monitoring of the plasma electrons and ions, their composition, distribution, temperature, density, flow velocity, and the magnetic field is necessary. These anticipated measurements will improve the understanding of the coupling processes of cometary dust, gas, and plasma as well as its interaction with the solar wind. The plasma and fields measurements thus provide complementary information to that

of other Rosetta instruments for a deeper understanding of the overall physics and chemistry of an active comet.

The planned asteroid flybys of the ROSETTA spacecraft will provide an excellent opportunity to study in detail the physics of the solar wind - asteroid interaction. The proposed payload is also most suitable to investigate this interaction. Furthermore, the planned observations will allow us to study the magnetic and electric conductivity properties of the asteroid.

1.2 Experiment Overview

A plasma consortium is proposed with five different sensors and a common plasma interface unit (PIU) as a single interface between the package and the spacecraft. Such a highly integrated package saves spacecraft resources such as mass and power. Great care has been taken to provide robust sensors of proven technology that will operate and survive in a cometary environment. The sensors proposed bear heritage from many different space missions such as GEOS 2, ARCAD 3, Voyager, Giotto, CLUSTER, Viking, Freja, MARS-96, and Cassini.

1.2.1 Instrument Overview and Accomodation

Sensor etc.	Mnemonic	Responsible Group
LAngmuir Probe	LAP	IRF-U, Uppsala
Ion and Electron Sensor	IES	SwRI, San Antonio
Ion Composition Analyser	ICA	IRF-K, Kiruna
Fluxgate MAGnetometer	MAG	TU Braunschweig
Mutual Impedance Probe	MIP	LPCE, Orleans
Plasma Interface Unit	PIU	ICSTM, London
Electrical Ground Support Equipment	EGSE	KFKI-RMKI, Budapest

Table 1.2-1: Instrument Accommodation

The accommodation of the sensors and interfaces are indicated in Figure 1.2-1 and Figure 1.2-2.

LAP	two sensors, each mounted at the tip of an about 1.5 m boom, separated > 1 m in the direction towards the nucleus
IES	body mounted at the nucleus facing edge of the instrument platform
ICA	body mounted at the nucleus facing edge of the instrument platform
MAG	two sensors mounted at a distance of about 1.4 m and 1.55 m from the s/c and close to the tip of the x-boom, i.e. the boom pointing away from nucleus
MIP	boom mounted: the four electrodes that make up the sensor are mounted at a minimal distance of 1 m from the spacecraft structure, sensor pointing towards the comet direction (within 45º).
PIU	The PIU is contained within the RPC common electronic box, which also houses the MAG, MIP and LAP electronics

A block diagram of the package is given in Figure 1.2-3.

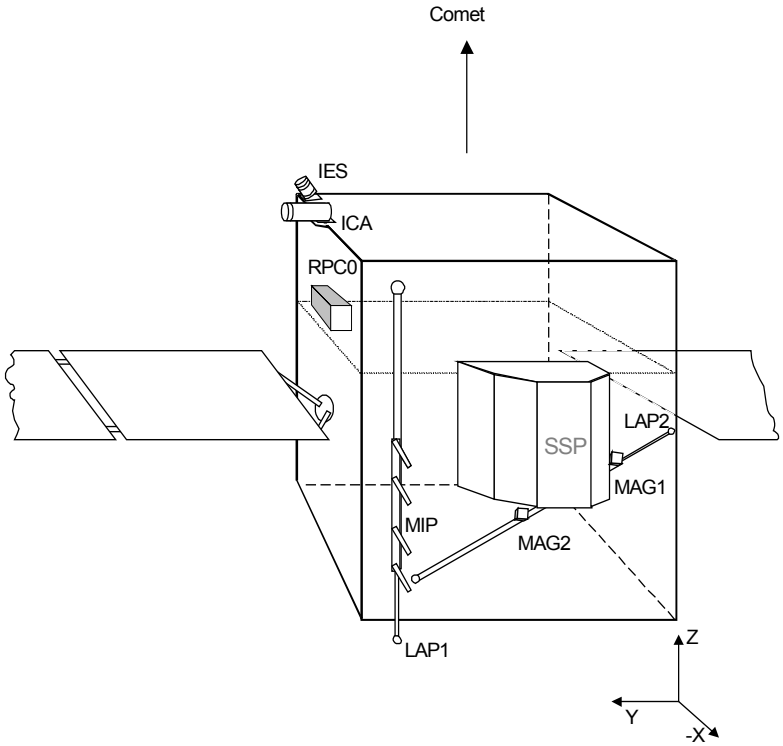


Figure 1.2-1: RPC Sensors Layout (stowed)

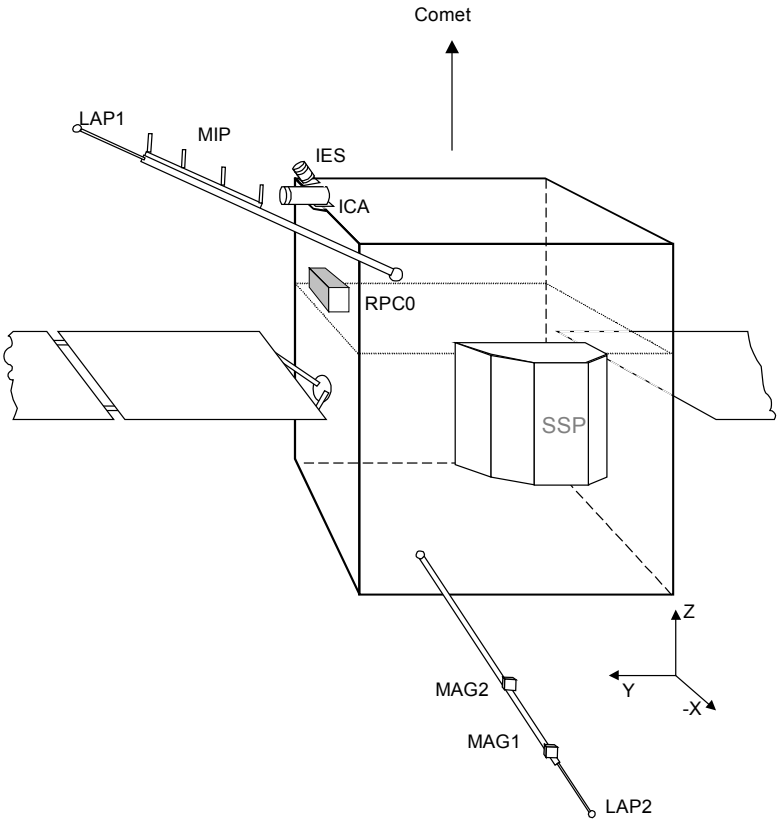


Figure 1.2-2: RPC Sensors Layout (deployed)

Experiment Unit	Experiment Name	Process ID	Service Type Range
RPC-0	PIU	83	200-209
RPC-1	IES	84	210-219
RPC-2	ICA	85	220-229
RPC-3	LAP	86	230-239
RPC-4	MIP	87	240-249
RPC-5	MAG	88	250-255

Table 1.2-2: Experiment Assignment

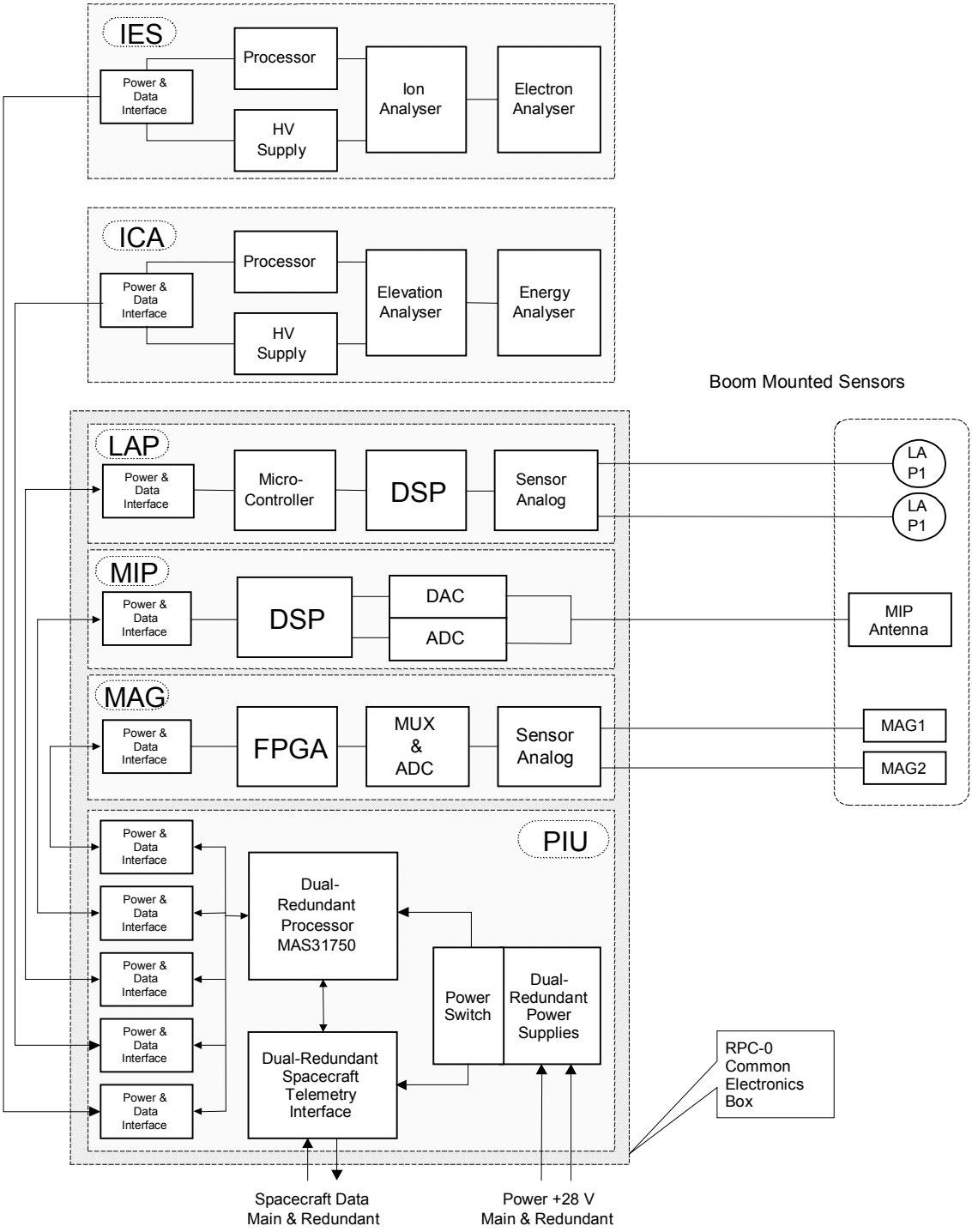


Figure 1.2-3: RPC Overall Block Diagram

1.2.2 Sensor Descriptions

1.2.2.1 Langmuir Probe (LAP)

The LAP sensors are two spherical Langmuir probes, one probe at the tip of each of the two solid booms. The probes are identified as RPC-3.1 and RPC-3.2 though the
abbreviations P1 and P2 are often used. The probes can be independently operated in any of to bias modes:

1. A *bias voltage* can be applied to the probe, in which case the basic measured quantity is the current flowing from the probe to the plasma.
2. A *bias* current (including zero, corresponding to floating probes) can be applied to the probe. In this case, the basic quantity measured is the voltage of the probe with respect to the spacecraft.

Probe P2 may also be used by the MIP instrument for use in the LDL (Long Debye Length) mode. In general, voltage bias is to be used for determining the prime LAP science parameters of the plasma density; electron temperature,, plasma flow speed, and the density fluctuation spectrum, while the bias current is applied to get measurements of spacecraft potential and electric (wave) fields. The bias can either be constant or ”swept”, i.e. varied in steps over some range of voltage or current. LAP also has the possibility to apply a square-wave voltage of up to a few kHz to either probe and observe the resulting signal on the other probe.
A variety of different measurements can be produced by this arrangement, producing different data types. The basic data types are listed above: however, it should be noted that the LAP flight s/w is very flexible, and functions can be defined for construction of other data types not listed here.

1. Time series data. With the probes at constant bias, the time series, at some constant sampling frequency, from both or any of the probes, or derived time series like their sum or their average, can be transmitted.
2. Probe bias sweeps. The bias voltage (or current) can be varied during a, brief interval, known as a sweep. While the samples acquired still constitute a time series, the basic assumption is that the plasma does not vary during the short sweep, and the sweep is treated as a set of instantaneous and simultaneous samples acquired at different bias.
3. Spectral data. The LAP onboard software can also calculate frequency spectra from the time series data.

Within the fundamental restrictions of low power and mass figures, LAP must be able to perform among others the following tasks:

- Perform plasma diagnostics by Langmuir probe sweeps for a wide range of plasma parameters. This implies the possibility to vary the probe bias voltage, with the number, size and duration of the sweep steps optimised for the expected plasma parameters.
- Determine plasma flow velocities up to 10 km/s by a dual-probe time-of-flight technique. With a probe separation of 3 m, this amounts to the possibility to observe time shifts down to 0.3 ms. To do so, a sampling frequency of at least 10 ksamples/s is needed on two probes simultaneously.
- Estimate electric fields and spacecraft potentials as well as plasma density variations. This calls for the possibility to operate the probes in a fixed-bias-current mode as well as in the fixed-bias-voltage mode.
- Observe plasma wave fields up to 8 kHz, necessitating sampling at least 20 ksamples/s.
- Implement an active mode for investigation of the propagation of low frequency (up to a few kHz) waves. This implies the possibility to transmit a signal, with adjustable frequency, amplitude and duration, from one probe and receive it at the other probe, with the possibility to interchange the Tx/Rx roles of the probes.
- Study dust by the electrostatic structure of the impacts.

From this list, it is obvious that LAP is characterised by a large number of different operational modes. When comparing the very limited telemetry rates available (nominally 1 bit/s, 5 bit/s or 2200 bit/s) to the data output (20 ksample/s from two probes with 16 bit samples implies 640 kbit/s), it is obvious that another characteristic of LAP is the need for extensive onboard data processing. It is also clear that the data processing needs are very different for different types of measurement. For the probe sweeps, some non-linear parameterisation process is called for; for wave studies, Fourier or wavelet transforms may be used to reduce data; for time-of-flight measurements, cross-correlation techniques will be useful; and so on. Finally, it is also clear that a data processing technique used for one type of measurement may be completely inapplicable to another type of measurement: taking the Fourier transform of sweep data or fitting a Langmuir sweep expression to pulsed propagation experiment data are two examples of such mismatches between measurement and data processing, each likely to have disastrous results for quality of the data. Therefore, all commanding of LAP has to take this close coupling of measurement and data processing into account.

The Langmuir probe comprises a pair of classic Langmuir probes with sensors in the form of 5 cm diameter spheres on booms and multiple modes of operation (ref. to the block diagram in Figure 1.2-4):

1. *Electron collection mode:*
2. *Positive ion collection mode:*
3. *Two Langmuir probe mode:*
4. *Density fluctuations measurement:*
5. *Measurements of spacecraft potential with a current biased probe (voltage mode):*
6. *Detection of AC electric fields with one or two LAPs in voltage mode*.
7. *Active propagation experiment:*
8. *Measurements of solar UV integrated ionizing flux:*
9. *Measurements of micrometeoroid and dust impacts.*

One of the LAP sensors can also be used by the MIP instrument for signal transmission (see Sec.: 1.2.2.5). A summary of the expected LAP performance is given in Table 1.2-3.

Quantity	**Range**
Electron/ ion number density	$1 – 10^6$ cm^{-3}
Electron temperature	0.001 – 10 eV
Plasma flow velocity	0 – 10 km/s
Electron/ion number density fluctuations	0.1 - 50 %
Spacecraft potential	±32 V
Plasma Waves	0 – 8 kHz
Solar UV integrated ionizing flux (if $n_e < 3 \times 10^3 cm^{-3}$)	
Dust impacts (if d > 1mm, v > hundreds m/s)	

Table 1.2-3: Summary of expected LAP performance

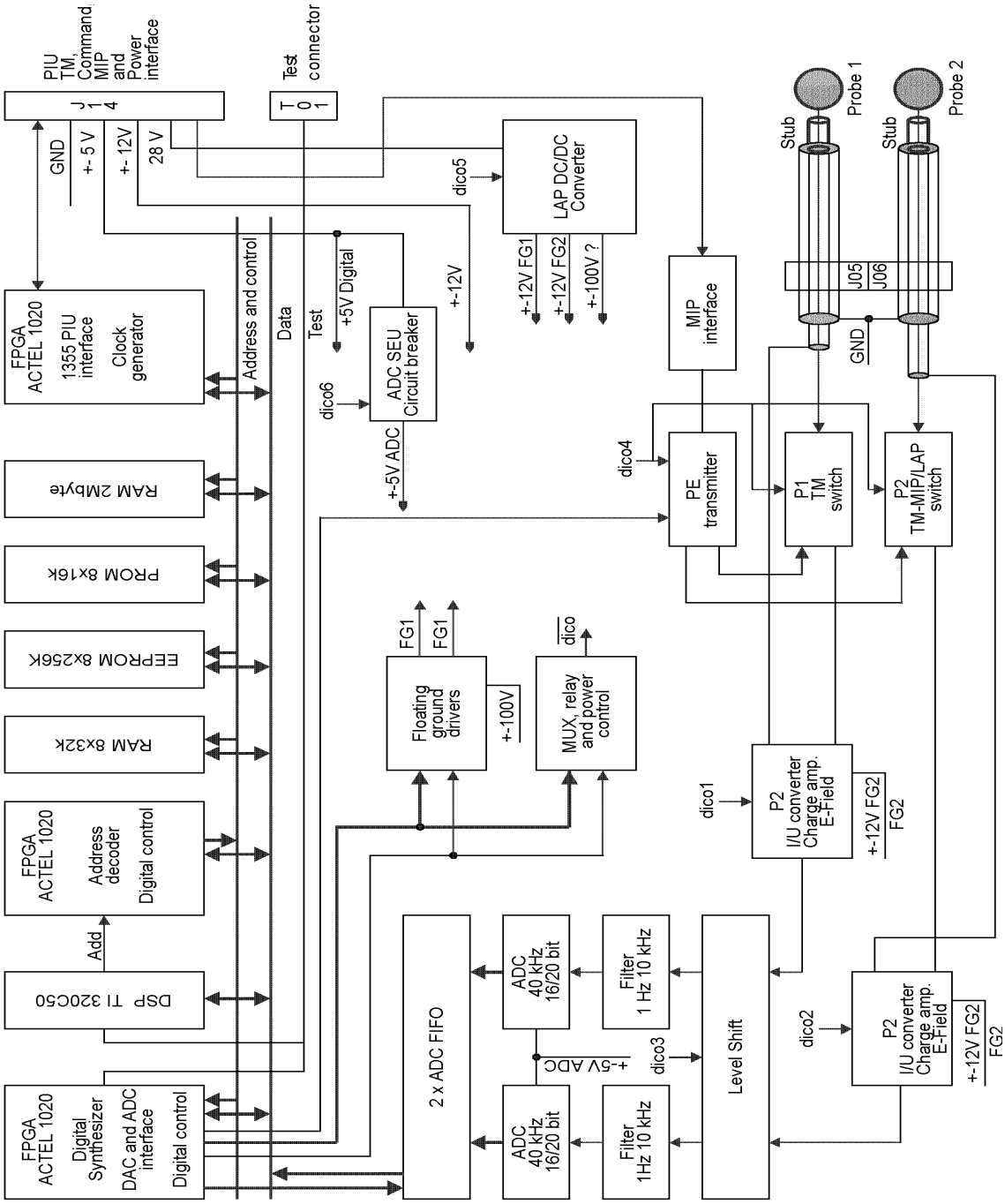


Figure 1.2-4: Langmuir Probe (LAP) Block Diagram

1.2.2.2 Ion and Electron Sensor (IES)

The IES for ROSETTA is an electrostatic analyzer (ESA), featuring electrostatic angular deflection to obtain a field of view of 90º x 360º. The instrument objective is to obtain ion and electron distribution functions over the energy range extending from 1 eV/e up to 30 keV/e, with a basic time resolution of 3 s. The angular resolution for electrons is 5º x 22.5º (9 azimuthal and 16 polar-angle sectors. For ions the angular resolution is 5º x 45º (9 azimuthal and 8 polar-angle sectors) with additional segmentation to 5º x 5º in the 45º polar-angle sector most likely to contain the solar wind (giving a total of 16 polar-angle sectors for ions). Table 1.2-4 lists the complete set of IES performance parameters and its resource requirements. The back-to-back top hat geometry of the IES electrostatic analyzer allows it to analyze both electrons and positive ions with a single entrance aperture. The IES top hat analyzers have toroidal geometry with a smaller radius of curvature in the deflection plane than in the orthogonal plane. This toroidal feature results in a flat deflection plate geometry at the poles of the analyzers and has the advantage that the focal point is located outside the analyzers rather than within them, as is the case with spherical top hat analyzers. In addition, the IES entrance aperture contains electrostatic deflection electrodes, which expand its azimuthal angle field of view to ±45º. With the typical top hat polar-angle field of view of 360º, the IES acquires a total solid angle of 2.8 π steradians.
Ions and electrons approaching the IES first encounter a toroidal-shaped grounded grid encircling the instrument. Once inside the grid the electric field produced by bipolar electrodes deflects ions and electrons with a range of energies and azimuthal angles into a field-free entrance aperture containing serrated walls to minimize scattering of ultraviolet light and charged particles into the instrument. The particles then enter the top hat region and the electric field produced by the flat electrostatic analyzer segments of the ion and electron analyzers. Particles within a narrow 4% energy pass band will pass through the analyzers and be focused onto conversion dynodes. The selected energy will correspond to a particular 5º azimuthal entrance angle, depending on the ratio of voltages on the angle deflectors and the ESAs. Secondary electrons produced on the conversion dynodes are focused on the electron and ion MCPs, which produce charge pulses on 16 discrete anodes, which define the polar acceptance angles.
Pulses from the segmented MCPs are amplified by charge-sensitive preamplifiers (CSPs) and recorded in the 16 x 24 bit ion and electron counters. The data are buffered before being sent to the output serial

register for transmission to the PIU as serial telemetry packets. The stepping sequences of the angle and energy deflection voltages of the instrument are determined by the modes of operation.
The IES instrument will contain a single micro-controller (RTX20X10) as shown in Figure 1.2-5. This micro-controller shall communicate with the PIU over the IEEE 1355 bus, transmit the collected science data, and monitor the instrument status. The flight software is written in the C and Forth programming languages.
The PIU shall store and re-transmit the data stream that the instrument produces. Other than data compression, no special data handling is required. The PIU shall store time-tagged commands so that a sequence of commands can be performed between the times that ground stations are in direct contact with the satellite.

Parameter		**Value**
Energy:	Range	1 eV to 30 KeV
	Resolution	0.04
	Scan	mode-dependent
Angle:	Range (FOV)	90º x 360º (2.8 π sr)
	Resolution (electrons)	5º x 22.5º (18 azimuthal x 16 polar)
	Resolution (ions)	5º x 45º (5º x 5º for ions in one sector) (18 azimuthal x 16 polar)
Temporal resolution:		
	3D distribution	3 s
	downlink data	300 s
Geometric factor:		
	total (ions)	5 x 10^{-4} cm^2 sr eV/eV counts/electron
	per 45º sector (ions)	5 x 10^{-5} cm^2 sr eV/eV counts/electron
	total (electrons)	5 x 10^{-5} cm^2 sr eV/eV counts/electron
	per sector (electrons)	5 x 10^{-6} cm^2 sr eV/eV counts/electron

Table 1.2-4: Summary of expected IES performance

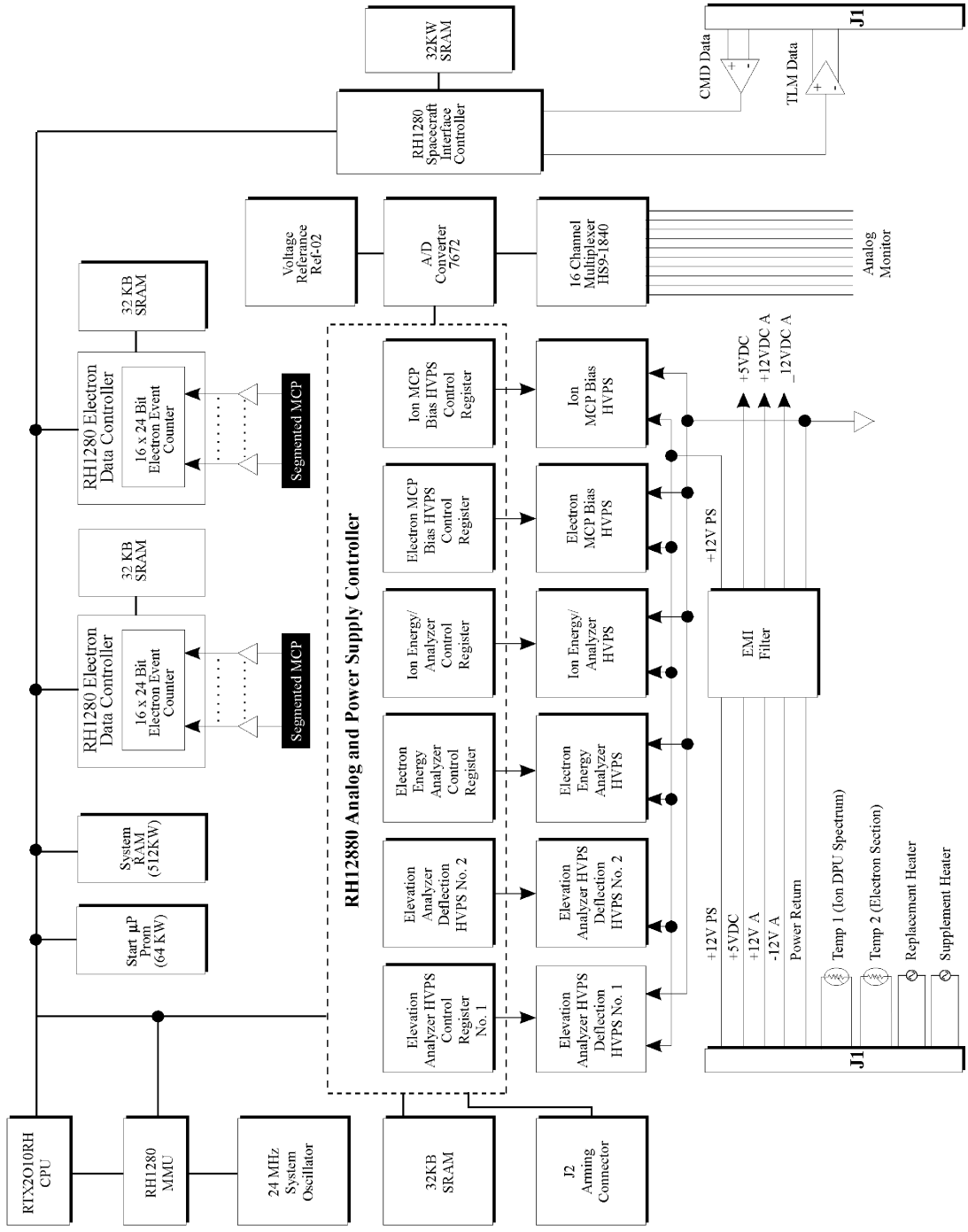


Figure 1.2-5: Ion and Electron Sensor (IES) Block Diagram

1.2.2.3 Ion Composition Analyser (ICA)

The ion composition analyser uses the same type elevation analyser as the IES. Particles enter the analyser through an outer-grounded grid. Behind the grid is a deflection system whose purpose is to deflect particles coming from angles between 45º and 135º with respect to the vertical axis, into the electrostatic analyser. Ions within a swept energy pass band will pass the electrostatic analyser. The ions are then deflected in a cylindrical magnetic field set up by permanent magnets; the field deflects lighter ions more than heavy ions into the centre of the analyser. The ions finally hit an MCP and are detected by an anode system. Ions are analysed in both direction and mass per charge simultaneously. The magnet assembly can be biased with respect to the electrostatic analyser to post accelerate ions; this post acceleration enables a selection of both mass range and mass resolution.

Quantity		**Range**
Energy:	Range Resolution Scan	1 eV to 40 KeV ΔE/E = 0.07 Mode-dependent; normally 64
Angle:	Range (FOV); Resolution	90º x 360º (2.8 π sr) 50º x 22.5º (16 elevation steps x 16 sectors)
Temporal resolution:	2D distribution 3D distribution	4 s 64 s
Geometric factor:	 per 22.50 sector per 3600 sector	 6×10^{-4} cm^2 sr 1×10^{-2} cm^2 sr

Table 1.2-5: Summary of expected ICA performance

The instrument contains the following high voltages:

- *entrance deflection voltages for the upper and lower electrodes*
- *electrostatic analyser deflection voltage*
- *postacceleration voltage*
- *MCP bias voltage*

The HV supplies will be built providing MCP bias voltage and Main High voltage. Entrance deflection voltages for the upper and lower electrodes, electrostatic analyser deflection voltage, and postacceleration voltage will be obtained by the Main HVPS and HV optocouplers.

The characteristics of ICA are given in Table 1.2-5.

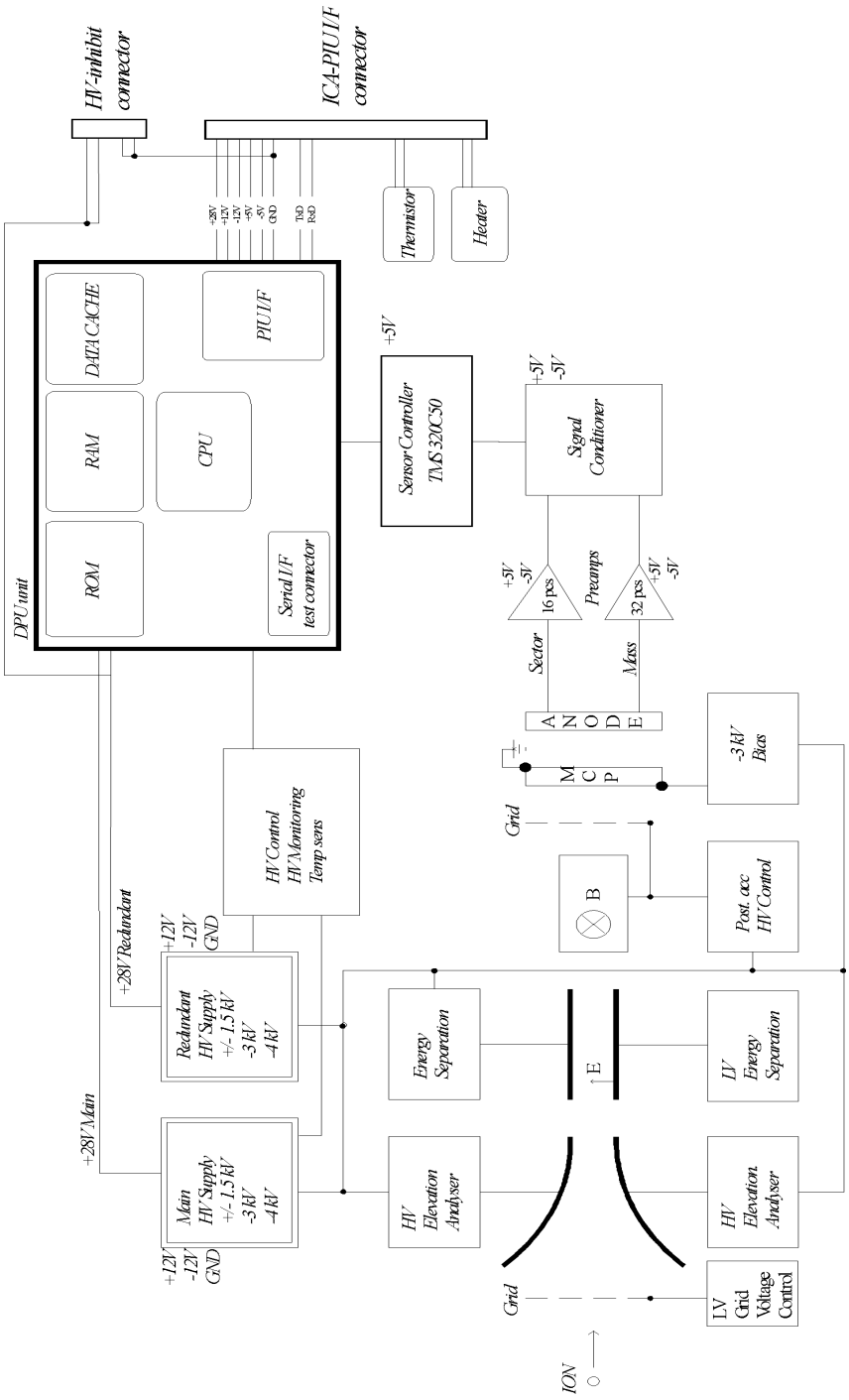


Figure 1.2-6: Ion Composition Analyser (ICA) Block Diagram

1.2.2.4 Fluxgate Magnetometer (MAG)

To measure the magnetic field a system of two ultra light triaxial fluxgate magnetometers (about 36 g each) is proposed, with the outboard (OB) sensor mounted close to the tip of the about 1.5 m long spacecraft boom pointing away from the comet nucleus and with the inboard (IB) sensor on the same boom about 15 cm closer to the spacecraft body. Two magnetometer sensors are required to minimise the influence of the rather complex spacecraft field on the actual measurements, and for redundancy purposes.
In order to meet the scientific requirements as discussed above the spacecraft magnetic DC-field requirement is about 25 nT at the outboard MAG sensor. To achieve this goal a magnetic cleanliness programme is planned, conducted by the experimenter team, supported by the ROSETTA project.

To further eliminate spacecraft fields and zero-offsets the so called multi-magnetometer technique will be applied in conjunction with statistical in-flight techniques. To increase time resolution 6 A/D converters (one for each of the six sensor channels) will be used synchronously. The A/D converters have a resolution of 20 bits each. MAG will be operated with a high temporal resolution of about 20 vectors/sec outboard and inboard. Transmission of number of vectors/sec respectively burst mode memory operation will be adopted to available data rate by averaging of vector rate inside the PIU-DPU.

Quantity	**Range**
Range	+/- 16384 nT
Quantization steps	+/- 0.031 nT
Bandwidth	0-10 Hz
Time resolution OB/IB	20 vectors/sec

Table 1.2-6: Summary of expected MAG performances

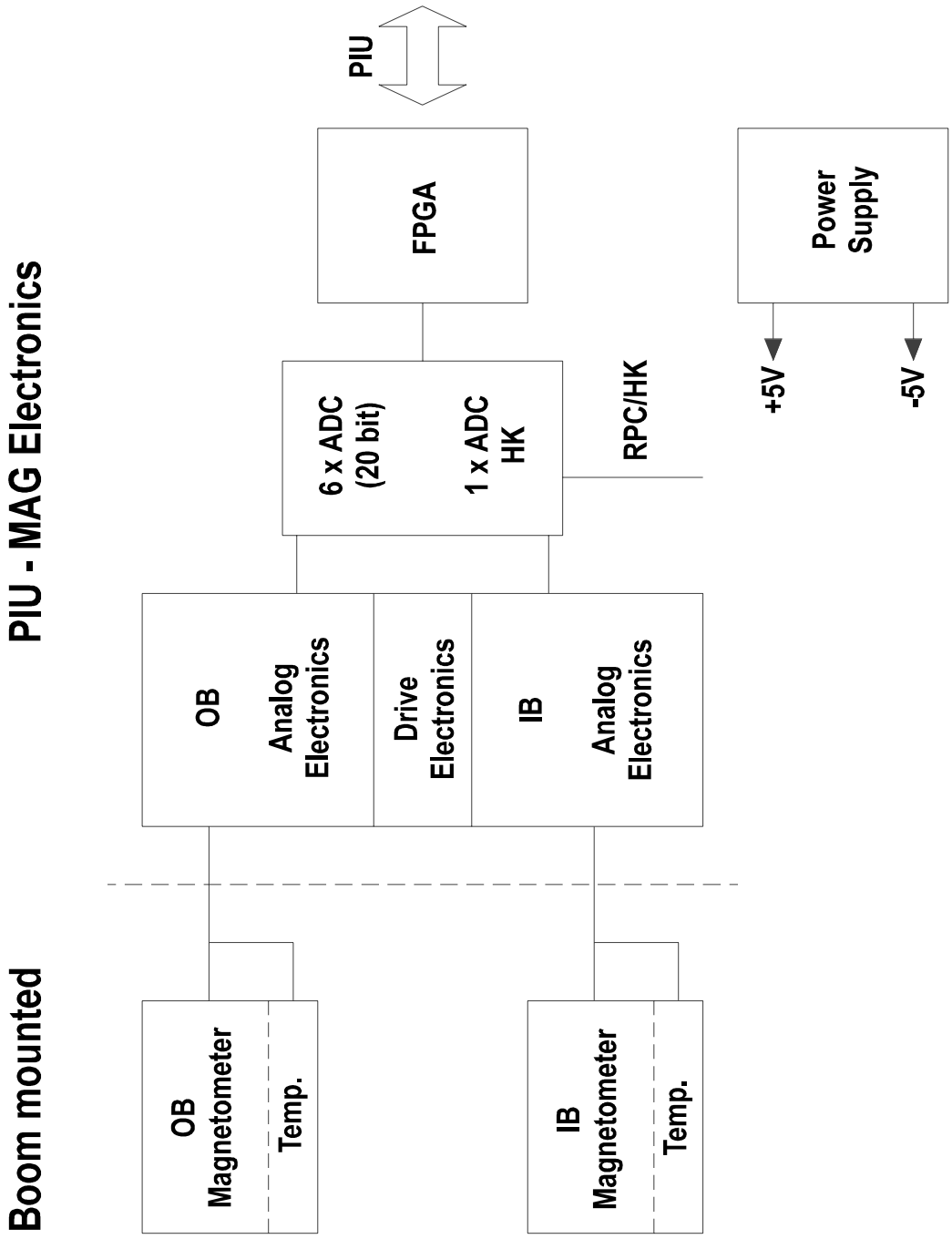


Figure 1.2-7: Fluxgate Magnetometer (MAG) Block Diagram

1.2.2.4.1 The FPGAs in the MAG

There are really two FPGAs now: the MAG_FPGA and the 1355_FPGA.
This description deals with the MAG_FPGA only, emphasizing the operation control of the ADCs, and the interface transactions between the1355_FPGA and the MAG_FPGA.

Figure 1.2-8 shows the distribution of the functions between the two FPGAs, the Interface signals between them, and the connections to the ADC logic.

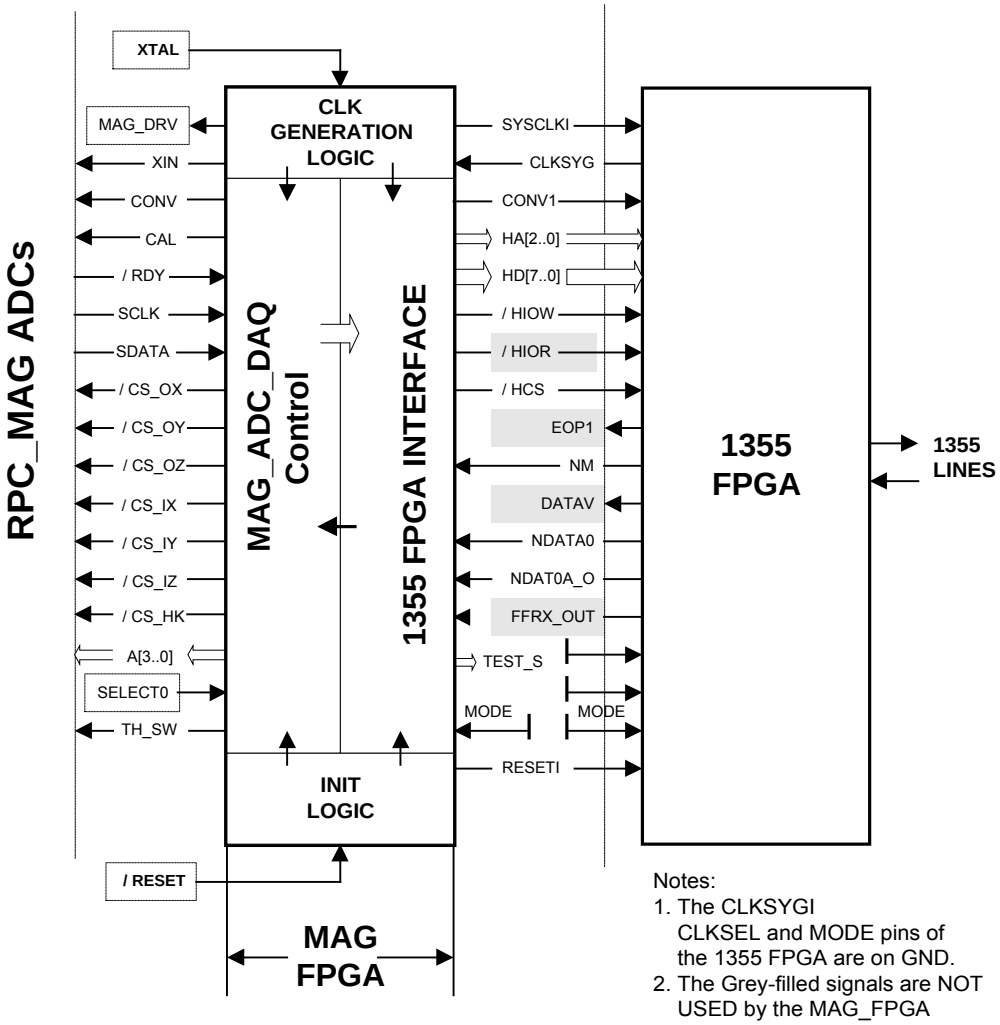


Figure 1.2-8: The MAG_FPGA connections in the MAG Electronics.

ROSETTA MAG: A1280A FPGA Pin Allocation, PLCC ordered

CQ 172	PLCC 84	Signal / Function	I/O
161	6	GND	PWR
154	2	XTAL	in
1	12	MODE (:=GND)	in
23	22	VCC	PWR
12	23	VCC	PWR
32	28	GND	PWR
36	29	SPARE0	i/o
38	30	SPARE1	i/o
39	31	SPARE2	i/o
41	32	RESET/	in
45	33	XIN	out
43	34	MAG_DRV	out
49	35	CONV	out
47	36	CAL	out
53	37	CS1/	out
150	83	SCLK	in
57	39	SDATA	in
54	40	RDY	in
61	41	CS2/	out
59	42	CS3/	out
66	43	VCC	PWR
63	44	CS4/	out
69	45	CS5/	out
67	46	CS6/	out
73	47	A2 (MUX)	out
71	48	CS7/	out
75	49	GND	PWR
81	51	A0 (MUX)	out
78	52	A1 (MUX)	out
85	53	TH_SW	out
88	54	NDATA0 (35) [45]	in
83	55	A3 (MUX)	out
92	56	NM (32) [41]	in
90	57	**SELECT0**	in
96	58	CLKSIG (27) [30]	in
94	59	CONV1	in
100	60	SYSCLKI (25) [26]	out
102	61	HD7 (20) [19]	i/o
104	62	HD6 (19) [16]	i/o
106	63	GND	PWR

CQ 172	PLCC 84	Signal / Function	I/O
107	64	VCC	PWR
109	65	VCC	PWR
111	67	HD5 (18) [14]	i/o
112	66	HD4 (17) [11]	i/o
116	68	HD2 (15) [6]	i/o
114	69	HD3 (16) [9]	i/o
118	70	GND	PWR
122	71	HD1 (14) [5]	i/o
124	72	HD0 (13) [3]	i/o
128	74	HIOW/ (8) [167]	out
131	75	HIOR/ (9) [170]	out
126	76	HCS/ (11) [172]	out
135	77	HA1 (5) [159]	out
133	78	HA2 (7) [163]	out
139	79	RESETI (1) [153]	out
137	80	HA0 (3) [155]	out
143	81	FFRX_OUT (69) [13]	in
145	82	NDAT0A_O (2) [154]	in
151	84	VCC	PWR
7		GND	PWR
17		GND	PWR
22		GND	PWR
24		VCC	PWR
27		VCC	PWR
37		GND	PWR
50		VCC	PWR
55		GND	PWR
65		GND	PWR
80		VCC	PWR
98		GND	PWR
103		GND	PWR
108		GND	PWR
110		VCC	PWR
113		VCC	PWR
123		GND	PWR
136		VCC	PWR
141		GND	PWR
152		GND	PWR
166		VCC	PWR

Digits or numbers in brackets (..), [..], are pin numbers of the corresponding transceiver FPGA A1280A, delivered by Imperial College, London. (..) for PLCC84 package, [..] for CQ172 package.

Table 1.2-7: The Actel 1280A Pin Assignment

1.2.2.4.1.1 The MAG_FPGA Signals

The Tables below functionally summarize and describe the signals used and generated by the MAG FPGA.

NAME	DESCRIPTION	Notes
XTAL	**The Quartz Oscillator signal to the MAG_FPGA**	**4.194304 MHz**
MAG_DRV	**MAG drive frequency**	**49.93219 kHz**
SYSCLKI	**Device Clock for the 1355 transceiver FPGA**	**419.4394 kHz**
XIN	**The Clock signal for the ADCs**	**32.768 kHz**
CLKSYG	**The Start Pulse of the Acquisition Period from the 1355 FPGA (Used only to increment the "One-Day" counter to issue a Calibration Cycle and CONVERSION start-pulse synchronization once a day.)**	**32 sec +/- 10 ms**

Table 1.2-8: The CLOCK signals, generated and used by the MAG_FPGA

NAME	DESCRIPTION	Notes
A[3..0]	**Address bits to select the source for the HK ADC.**	**See also the TH_SW**
CAL	**Controls the CALIBRATION inputs of the ADCs.**	**Issued once a day**
CONV	**Starts simultaneously all ADC CONVERSION Cycle (CC)**	**In every 50 ms**
CS_Ox .. Oz	**Selects one of the ADCs to collect the Outboard-sensor-data.**	
CS_Ix .. Iz	**Selects one of the ADCs to collect the Inboard-sensor-data**	
CS_Hk	**Selects the HK_ADC to collect the data of the A[3..0]-selected-sensor**	
SDATA	**Serial Data from the ADCs**	
SCLK	**Serial Clock from the ADCs**	**7x20 imp. in each CC**
TH_SW	**Threshold-Switch-control signal to the HK ADC circuit**	**= !A1 & !A2 & !A3**
SELECT0	**Selects the A[3..0] MPX address altering frequency between 4 and 8 CC.**	**JUMPER**

Table 1.2-9: The MAG_FPGA and the ADC circuit connections

NAME	DESCRIPTION	Notes
HA[2..0]	**Address bits to select the Write-Commands-Type for the 1355_FPGA**	**The Read Commands are not used by the MAG_FPGA**
HD[7..0]	**The byte-bits of the ADC-Data-Packets.**	
/HCS	**Chip Select (for writing) – active Low**	**238.4 ns wide**
/HIOW	**Write Pulse, starting with /HCS**	**119.2 ns wide**
/HIOR	**Read Pulse during /HCS - active Low**	**NOT USED!**
NDATA0	**Transmit Register Full**	**Delays the start of the four-packet-data-message transfer (with the !NM)**
Ndata0A_Out	**Transmit Register Status**	**Disables the Byte write after the first byte transfer**
NM	**Normal Mode**	**Enables the start of the four-packet-data-message transfer (with the !NDATA0)**
CONV1	**The same as the ADC CONV pulses but lead to the 1355 FPGA**	**Issued once at every 50 ms**

Table 1.2-10: The MAG_FPGA and the 1355_FPGA interface signals

NAME	DESCRIPTION	Notes
DATA_LOSS	**The collected Data (four packets) were not transferred to the 1355 FPGA before starting a new collection cycle.**	**PIN 29 / qfp172**
EOP_SENDING	**"End Of Packet" Write-Command-Time**	**PIN 163 / qfp172**
TX_TIME	**The Packet-transfer-time-period of the 50 ms Cycle Time (I.E.: The DAQ Cycle Ready)**	**PIN 33 / qfp172**

Table 1.2-11: The Test Signals to see some internal status by SCOPE

Note: The Pin Assignment Table in the APPENDIX A does NOT contain the above Test pins. They are all output pins, and are NOT connected to the other circuits on the MAG Board.

1.2.2.4.2 The main functions of the MAG_FPGA

1.2.2.4.2.1 The ADC Control Logic

The main functional blocks of the ADC Contol Logic can be seen on Figure 1.2-8. The ADC DATA SHIFT (IN) REGISTER is 20-bit long; its content is loaded into the Data Buffers at the end of the Acquisition Cycle (Chip select time) for the given ADC. The 20 SCLK clock pulses are generated by the ADCs, but the falling edge of the last pulse is not driven by them, as the SCLK and SDATA output return to the high impedance state at that time. The MAG_FPGA does not use this edge, because it might cause problems, if the falling time would be too long, and rising spikes could supersede on it. To avoid this, the Cs signals are deasserted at the middle of the last pulse, and the Shift Register contents are loaded into the data buffers at that time.
The CONV generation counters uses SEU tolerant (triple voting) counter logic with ~ 4MHz refresh frequencies, but the other counters are simple asynchronous ones, - because of the insufficient resources, available in the FPGA.
The ADC Control Logic issues a CONV Pulse in every 50 ms. The CONV pulse is synchronized to the CLKSYG 32-sec-pulse after Power on Reset, and the Calibration Time. The Calibration is initialized once a day by the “One-day Timer” Counter. During Calibration there is no DAQ from the ADCs. After issuing simultaneously the CAL and CONV pulses, the first DAQ may start in 250 ms – if the /RDY ready signal is OK. As the First ADC gives only /RDY signal to the Control Logic, there is a risk of missing all ADC’s Data if the first ADC went wrong. Because of that, there is a /RDY signal evaluation logic which gives a simulated /RDY if the ADC does not give it.

NOTE: There is also an erroneous condition, if the ADCs do not generate the SCLK clock, as the ADC Logic uses it. To avoid the locking of the ADC Logic in this case, there is a Watchdog Timer, which step forward the Logic if one of the ADC circuits does not give the 20 SCLK clocks.

The signal timing for one conversion cycle can be seen on Figure 1.2-10.

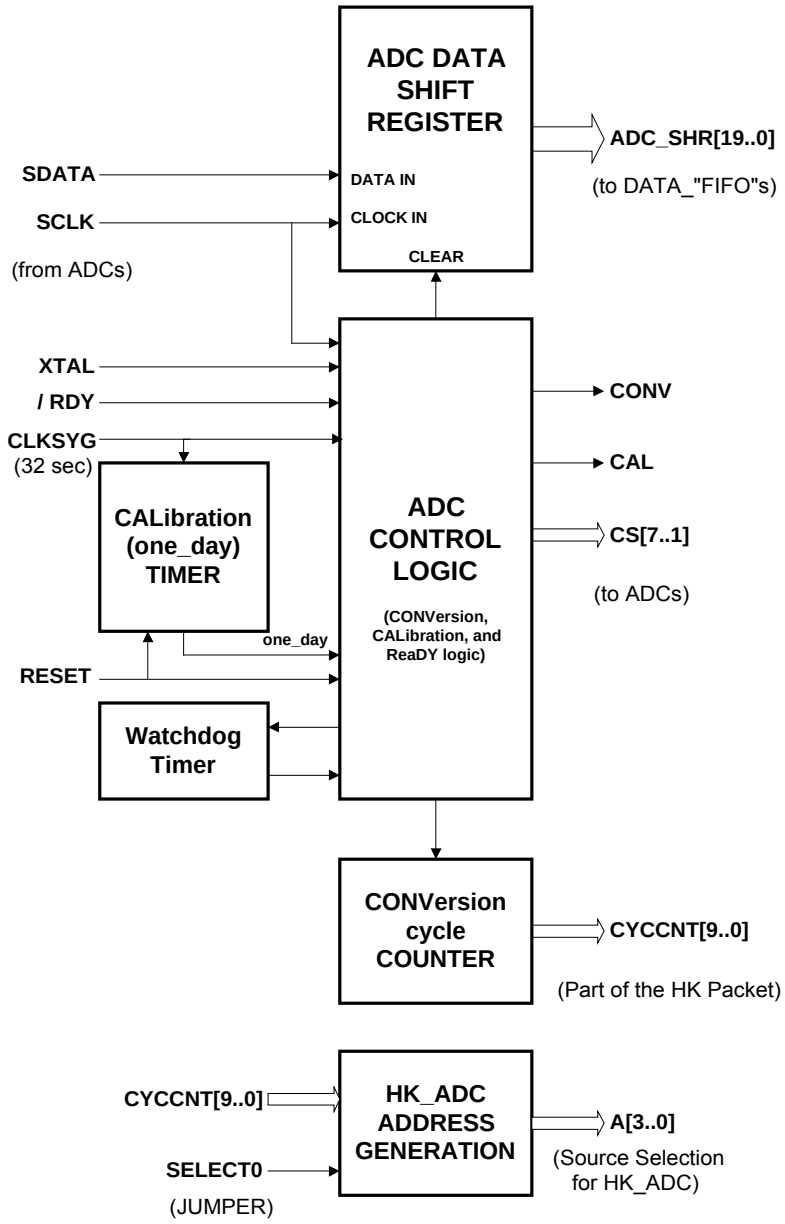


Figure 1.2-9: The main functions of the ADC- Control Logic

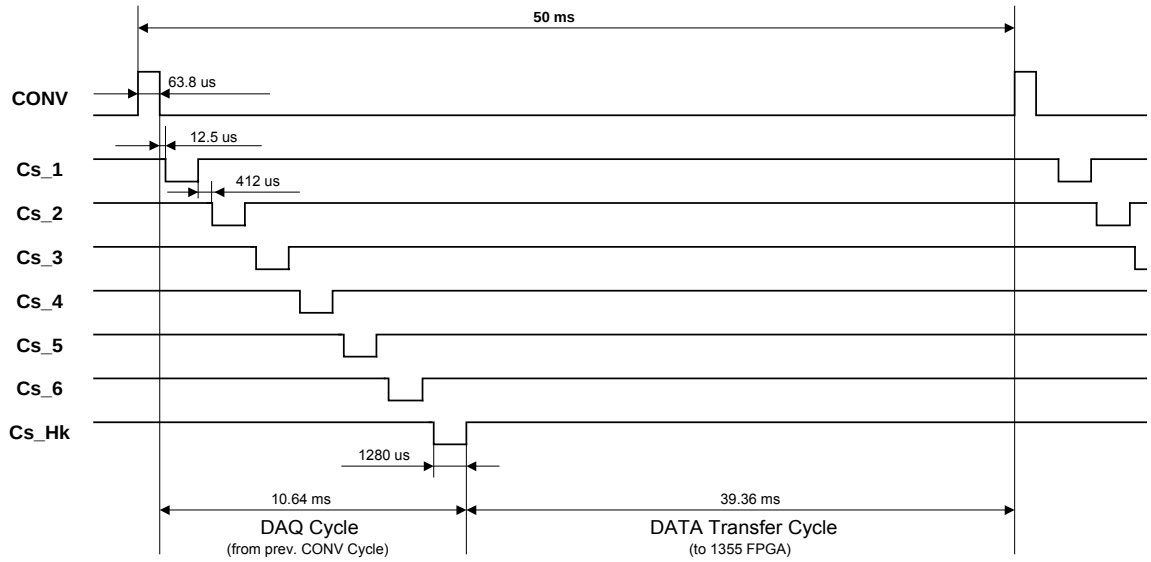


Figure 1.2-10: The Conversion-Cycle timing

First all Data generated by the previous Conversion Cycle are collected, then transferred to the 1355 FPGA on byte by byte basis - in the predefined packet-format (See later).

1.2.2.4.2.2 The Data Acquisition Buffers

After shifting the SDATA with the SCLK into a 20-bit shift register, the Data Words are temporally stored in two FIFO-type data buffers – to spare the resources of the FPGA, and to make the packet building easier (See Figure 1.2-11). The “FIFOs” consist of four and three 20-bit-registers, and – before loading the first register – the content of the other ones are shifted right into the next register – as Figure 1.2-12 shows. Each read/write one word into the Buffer generates all the four (or three) loading pulse-series. The outputs of the “FIFOs” are the source of the Data Selector Logic, which is controlled by the Interface Control Logic (Figure 1.2-13) to select the required byte for the packet building.

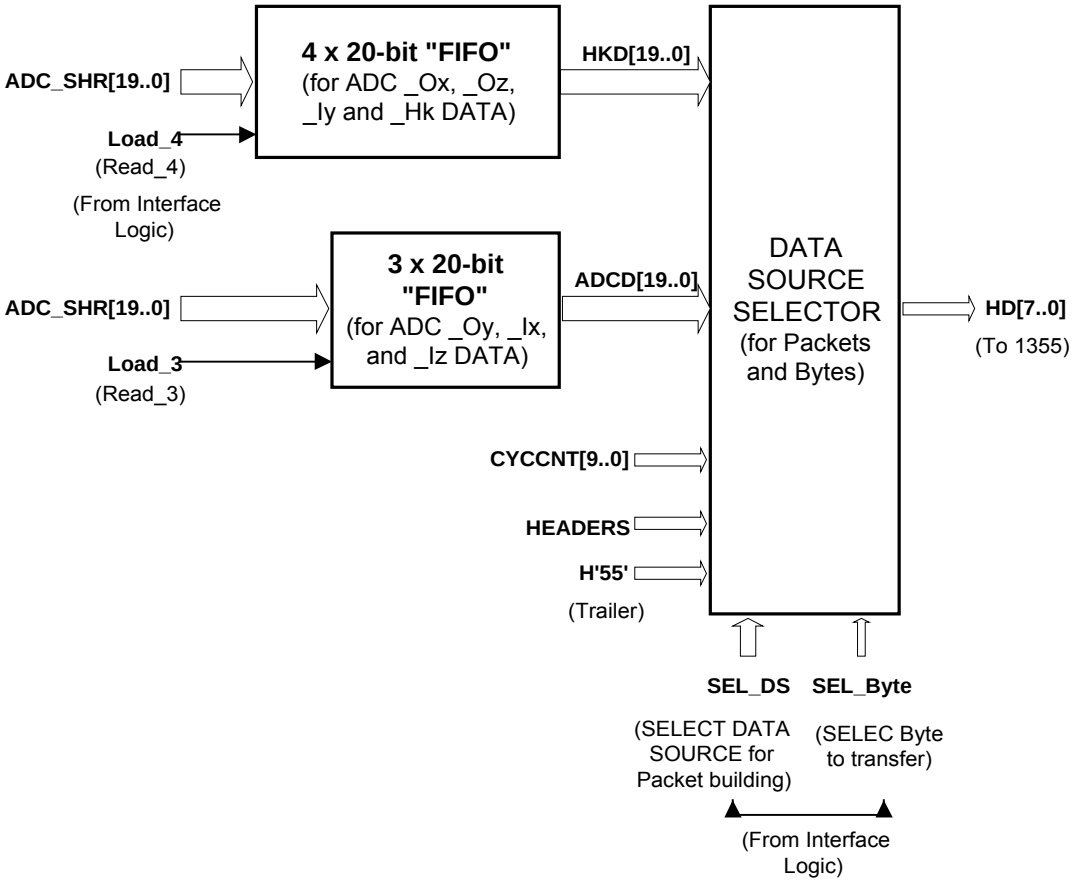


Figure 1.2-11: The Buffers for the ADC's Data and the Byte selector Logic

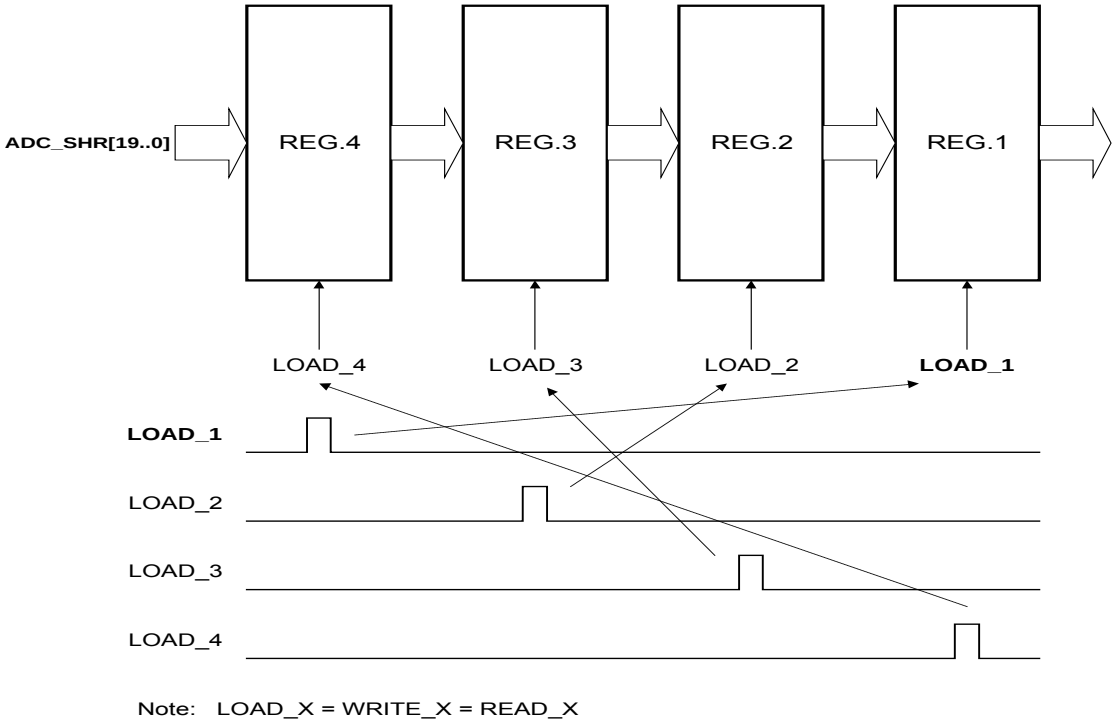


Figure 1.2-12: Writing and reading the “FIFO-type” Data Buffers

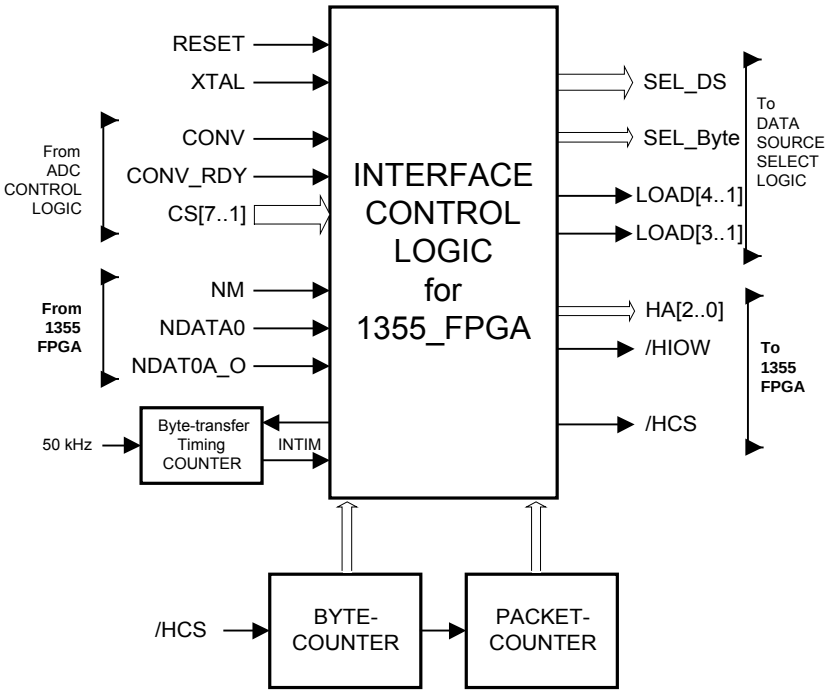


Figure 1.2-13: The signals of the 1355 Interface Control

1.2.2.4.2.3 The Data Packets to the 1355

The stored Data from FIFOs are transferred in four packets to the 1355 FPGA – as can be seen in Table 1.2-12. The first packet is the 61-header-byte packet. The Byte-write to the address 5 is controlled (deferred) by the NM, NDATA0 and NDAT0AO control signals from the 1355, as can be seen from the operation flow diagram.
One of the 16 Housekeeping Data sources is selected with the A[3..0] MPX Address, which is changed (incremented) after four or eight Conversion Cycles – depending on the SELECT0 Jumper value.
The actual MPX Address can be seen in the first four-bit of the second half of the fourth packet. (Last data word). The Last one of this MPX Address is flagged by the next "L"-bit of the last word. The last 10-bit shows the Conversion Cycle Number from a 10-bit Cycle Counter. Each Packet is closed with an EOP1 Control Command transfer(writing to the address 6).

8-Byte Link Packet

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	
Header							**Trailer**	
61 (hex)	0	20-bit OBX Data (Cs1)		0	20-bit OBY Data (Cs2)		55 (hex)	EOP1
62	1	20-bit OBZ Data (Cs3)		0	20-bit IBX Data (Cs4)		55	EOP2
63	2	20-bit IBY Data (Cs5)		0	20-bit IBZ Data (Cs6)		55	EOP3
20	3	Housekeeping Data (Cs7)		A	L	9-bit zero	10-bit CC Number	55	EOP4

Table 1.2-12: The MAGFPGA assembled four Link-Packets to the 1355

A: The current four-bit MPX Address (A[3..0]) to select the housekeeping source
L: 1-bit Flag to signify the last one of the current MPX address
CC: Conversion Cycle
EOP1: Control Command issued at the end of each packet transmission

1.2.2.4.2.4 The Interface Control of both MAG_FPGAs

Figure 1.2-13 shows the main logic elements and signals used by the Control Logic.
The main functions of the Interface Control Logic:

- Generate the Buffer-loading signals after each ADC DAQ, (LOAD[4..1, 3..1]
- Supply the appropriate Data Source and Byte Select signals (SEL DS, SEL Byte) for Byte Selector Logic (Fig.4) during the Data transfer to 1355,
- Generate the required address, chip select and write pulse for 1355. (HA[2..0], /HCS, /HIOW)

Three counter are used by the Logic:

- Byte Counter (in Packets)
- Packet Counter
- Internal Timer Counter (INTIM)

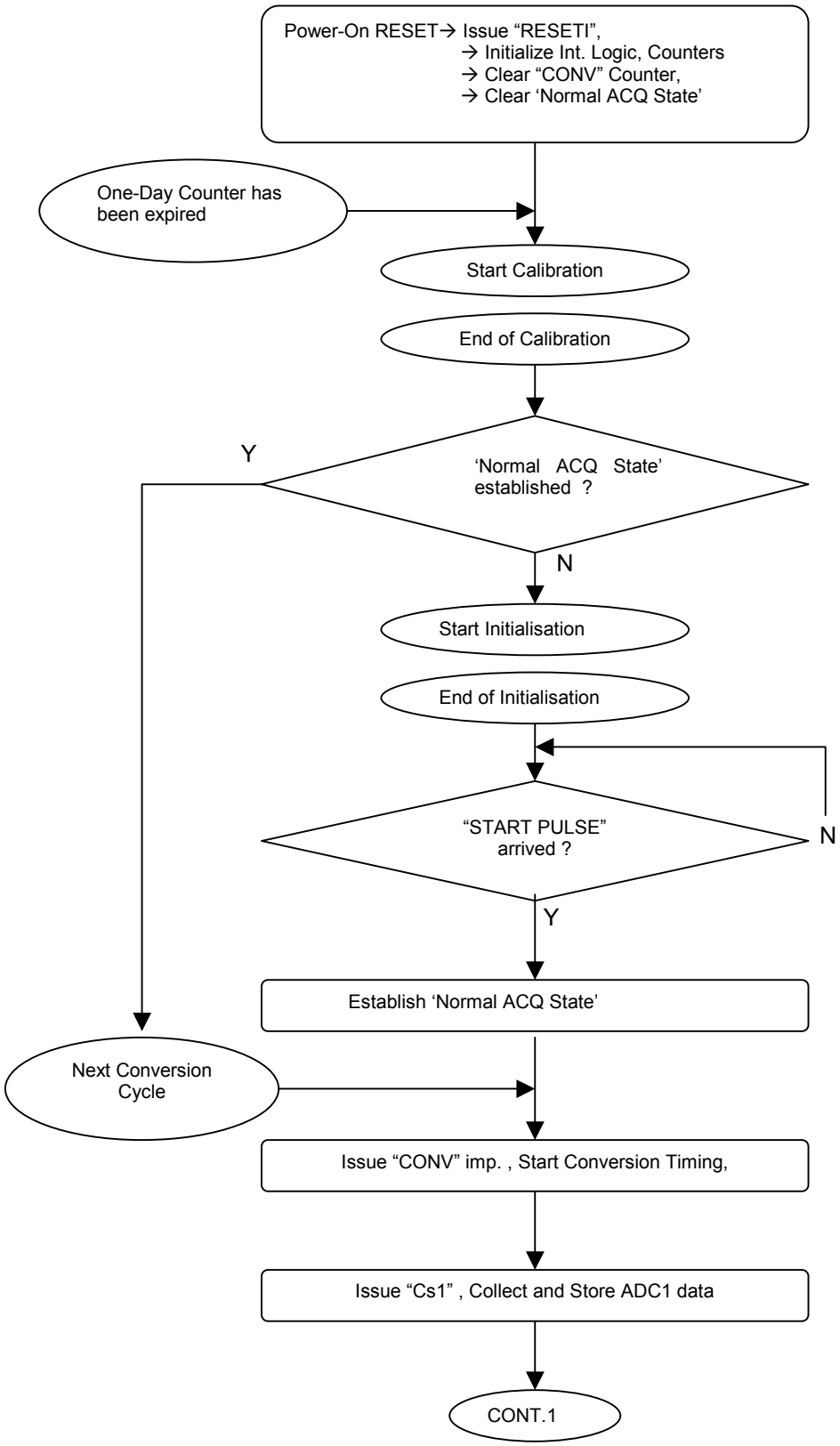
The role of the counters can be seen from the Flow Diagram.
The Byte and Packet Counters are also used by the Packet building circuits to select the appropriate byte, header or trailer for the transfer.
The aim of the “INTIM” counter-timer is to prohibit the byte write double into the 1355 input buffer if the 1355 does not react enough fast to the write transfer; i.e.: it does not defer the next byte-write with the ndata0 signal in time. In other words: if the 1355 always allows the transfer, then the INTIM timer will define the byte-write frequency.
The Flow-control signals are: NM, NDATA0, NDAT0A. The Flow Diagram below also shows how they influence (defer) the Byte transfer to the 1355.

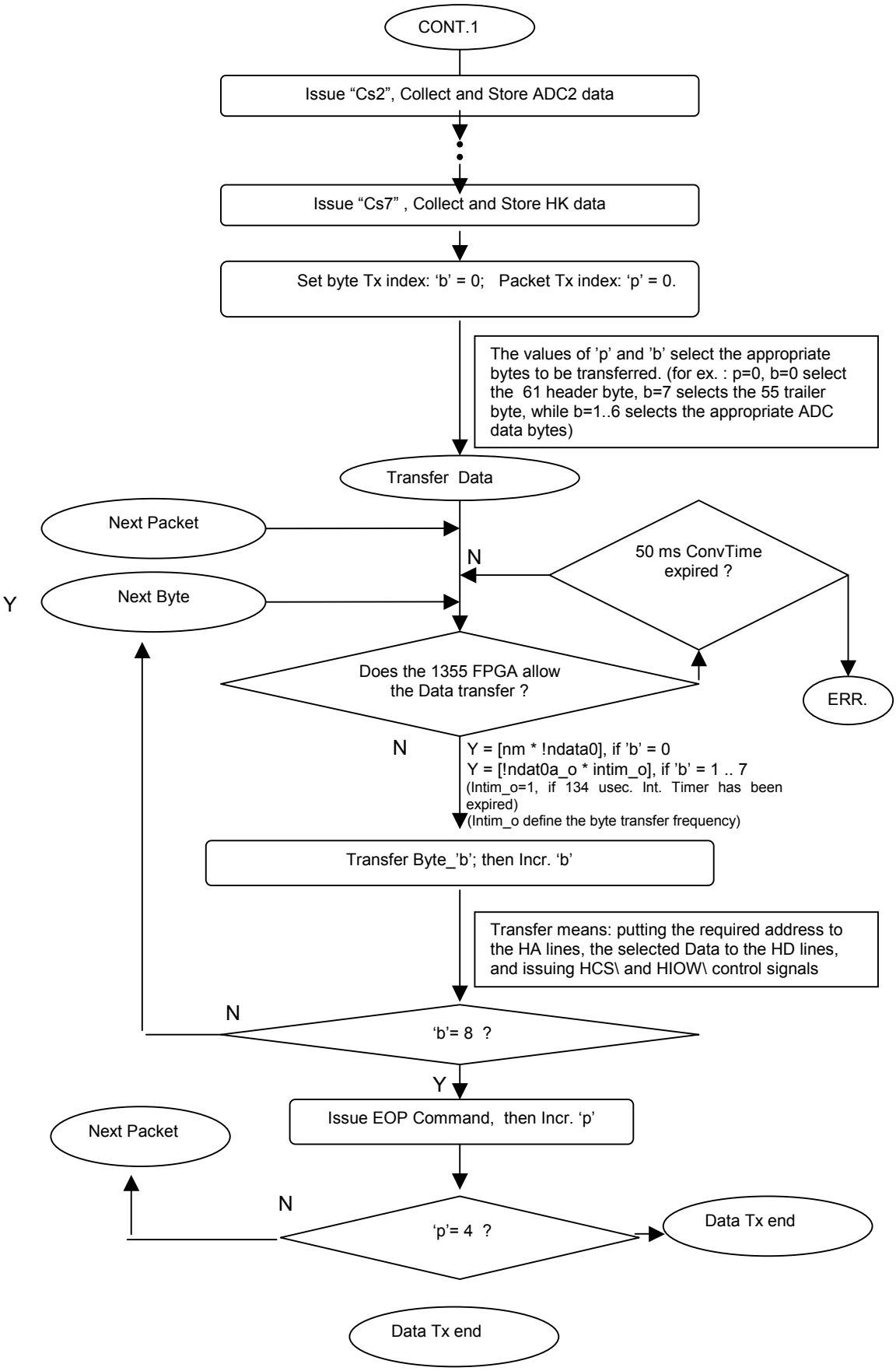
1.2.2.4.3 The Operation Flow of the MAG_FPGA

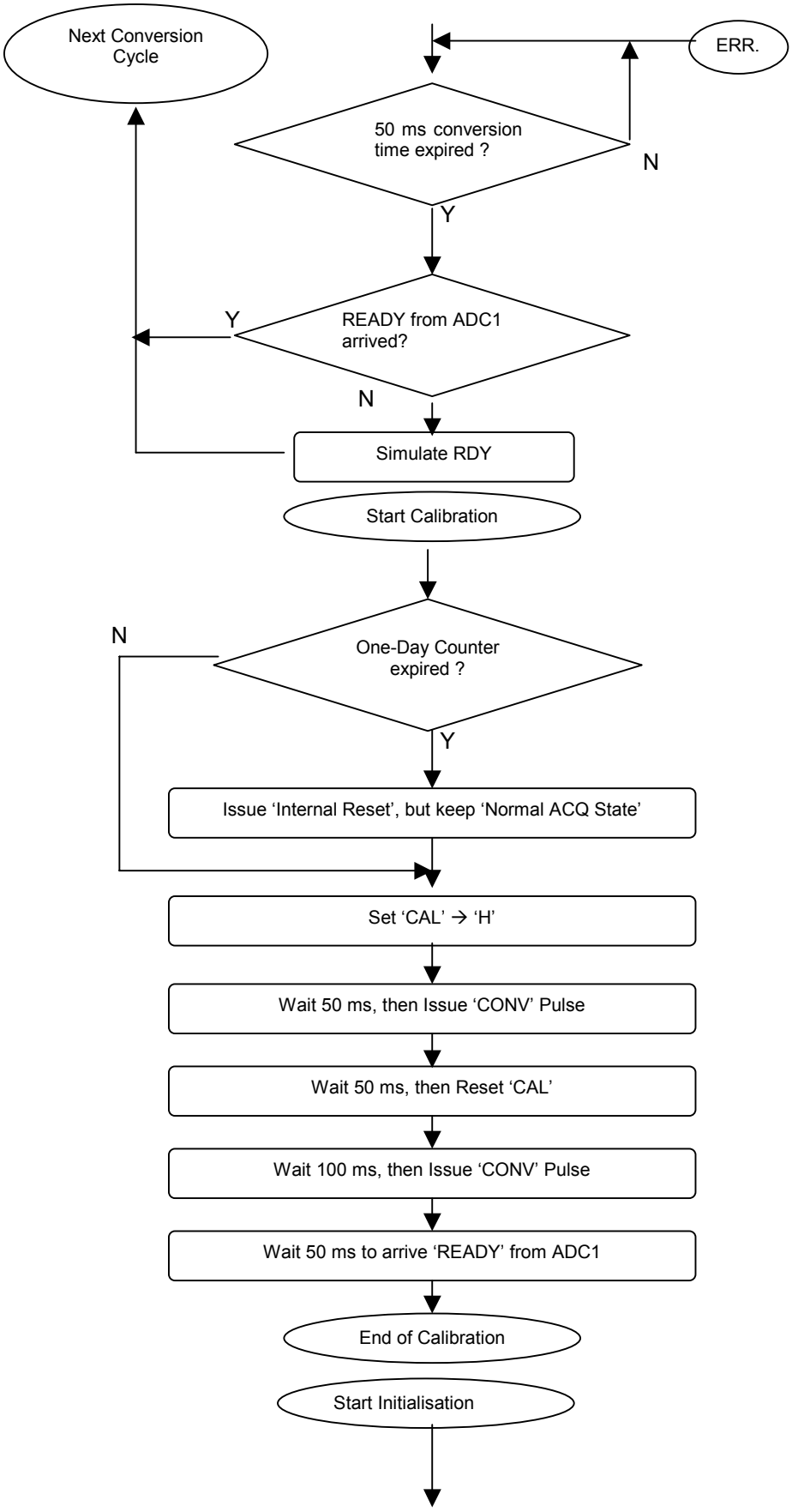
The Flow Diagram summaries the operation of the MAGFPGA.
There are four main phases in the op. Sequences:

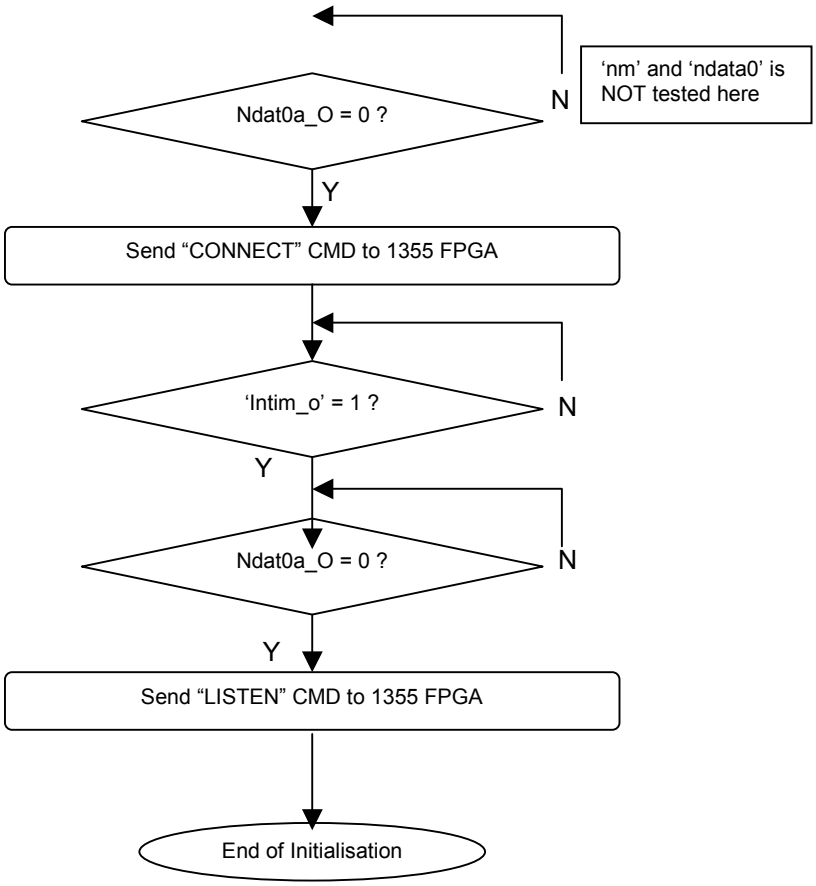
1. The Power-On Reset starts the **Initialization** Sequence and
2. **Calibration** Sequence to establish the Normal Operation State (The expiration of the One-Day-Timer starts also the **Calibration**)
3. If no Initialization and Calibration then the Normal Operation State exists, and during this the **Data Acquisition** and the
4. **Packet Transfer** are completed in each Conversion Cycle.

For Initialization and other details see also the PIU Interface Document.


Power-On RESET→ Issue "RESETI",
→ Initialize Int. Logic, Counters
→ Clear "CONV" Counter,
→ Clear 'Normal ACQ State'
One-Day Counter has been expired
Start Calibration
End of Calibration
'Normal ACQ State' established ?
Y
N
Start Initialisation
End of Initialisation
"START PULSE" arrived ?
N
Y
Establish 'Normal ACQ State'
Next Conversion Cycle
Issue "CONV" imp. , Start Conversion Timing,
Issue "Cs1" , Collect and Store ADC1 data
CONT.1


CONT.1
Issue “Cs2”, Collect and Store ADC2 data
Issue “Cs7” , Collect and Store HK data
Set byte Tx index: ‘b’ = 0; Packet Tx index: ‘p’ = 0.
The values of ’p’ and ’b’ select the appropriate bytes to be transferred. (for ex. : p=0, b=0 select the 61 header byte, b=7 selects the 55 trailer byte, while b=1..6 selects the appropriate ADC data bytes)
Transfer Data
Next Packet
Next Byte
N
Y
50 ms ConvTime expired ?
ERR.
Does the 1355 FPGA allow the Data transfer ?
N
Y = [nm * !ndata0], if ’b’ = 0
Y = [!ndat0a_o * intim_o], if ’b’ = 1 .. 7
(Intim_o=1, if 134 usec. Int. Timer has been expired)
(Intim_o define the byte transfer frequency)
Transfer Byte_’b’; then Incr. ‘b’
Transfer means: putting the required address to the HA lines, the selected Data to the HD lines, and issuing HCS\ and HIOW\ control signals
N
‘b’= 8 ?
Y
Issue EOP Command, then Incr. ‘p’
Next Packet
N
‘p’= 4 ?
Data Tx end
Data Tx end


Next Conversion Cycle
ERR.
50 ms conversion time expired ?
N
Y
READY from ADC1 arrived?
Y
N
Simulate RDY
Start Calibration
N
One-Day Counter expired ?
Y
Issue 'Internal Reset', but keep 'Normal ACQ State'
Set 'CAL' → 'H'
Wait 50 ms, then Issue 'CONV' Pulse
Wait 50 ms, then Reset 'CAL'
Wait 100 ms, then Issue 'CONV' Pulse
Wait 50 ms to arrive 'READY' from ADC1
End of Calibration
Start Initialisation


'nm' and 'ndata0' is NOT tested here
Ndat0a_O = 0 ?
N
Y
Send "CONNECT" CMD to 1355 FPGA
'Intim_o' = 1 ?
N
Y
Ndat0a_O = 0 ?
N
Y
Send "LISTEN" CMD to 1355 FPGA
End of Initialisation

1.2.2.5 Mutual Impedance Probe (MIP)

The MIP sensor (ref. Figure 1.2-14) measures the electrical coupling of a transmitting antenna and a receiving antenna, and identifies the plasma density, temperature, and drift velocity from the features of the frequency response. No direct contact between the sensor and the plasma is required because the coupling is capacitive only. So, MIP performance is independent of the chemical composition and photoemissive properties of the probe. It is also immune to contamination by dust and ice deposits. Extremely low energetic plasmas can then be explored, an important advantage in a medium where temperatures as low as a few tens of K have been predicted.
In its passive mode, this instrument has also the capability of a plasma wave analyser. It is therefore proposed to detect the electric fields of electrostatic and electromagnetic waves associated with the interaction of the solar wind, with the charged dust, and ionized outgassing products of the nucleus, as well as the impulsive signals generated by individual dust particles impacting the spacecraft surface.
The characteristics of the MIP sensor are listed in Table 1.2-13.

Quantity	**Range**
Electron density	2 - 1.5 10^5 cm^{-3}; accuracy 5% 2 - 280 cm^{-3} for Long Debye Length Mode
Temperature	30 - 10^6 K; accuracy 10%
Drift velocity	100 – 1000 m/s; accuracy about 100 m/s
Frequency domain	7 kHz – 3.5 MHz
Wave – sensitivity - dynamic range	1.0 mV $m^{-1}Hz^{-1/2}$ at 100 kHz 60 dB
Debye length	0.5 - 20 cm 10 - 200 cm for Long Debye Length Mode
Time resolution	0.8 sec (burst mode, TBC) 10 sec (normal mode) 200 sec (survey mode)

Table 1.2-13: Summary of expected MIP performance

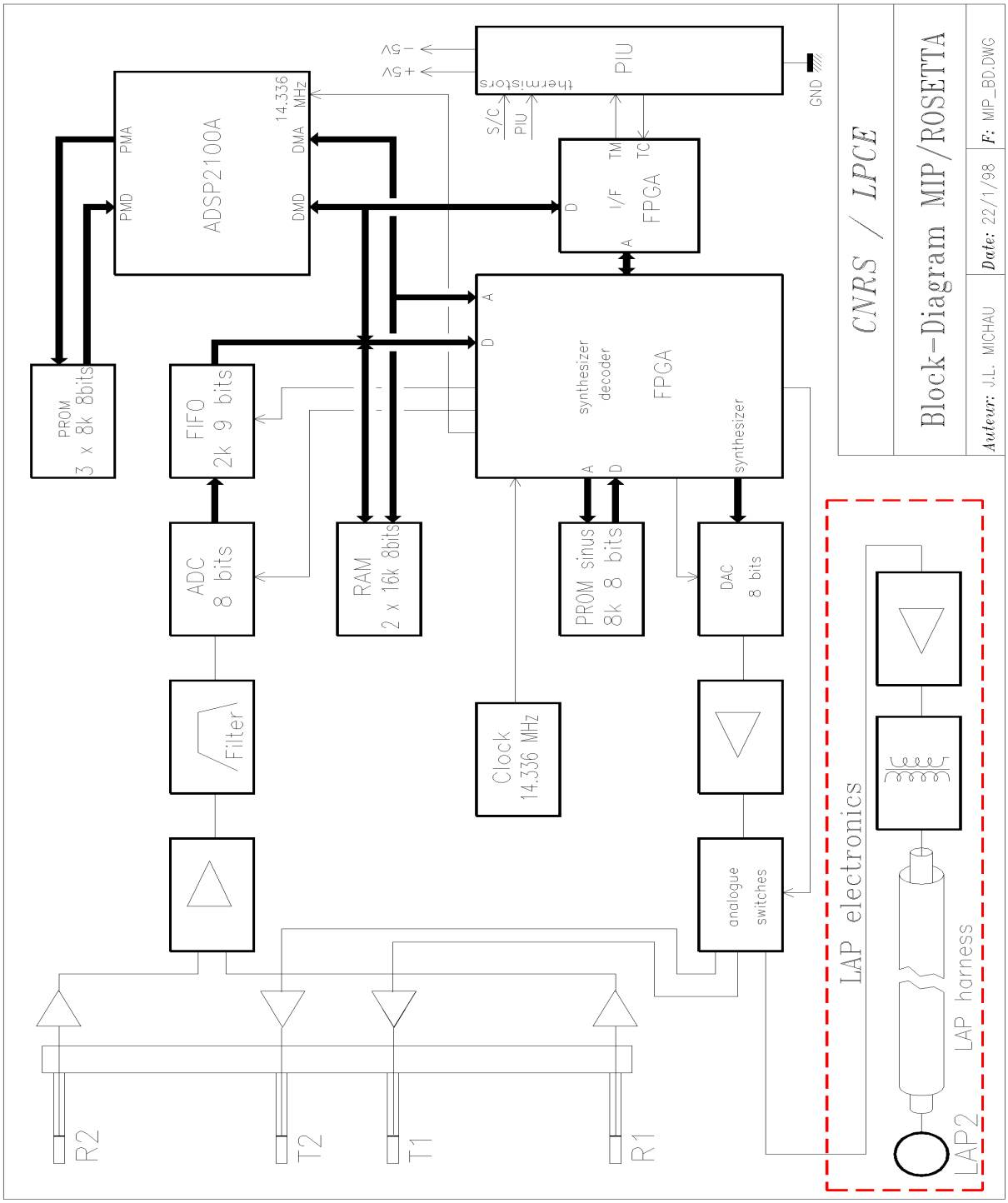


Figure 1.2-14: Mutual Impedance Probe (MIP) Block Diagram

1.2.2.6 The PIU and Common Electronics Box

The PIU is an interface and control unit that lies between the spacecraft and the five RPC sensors. The block diagram of RPC (Figure 1.2-3) shows the functional architecture of the package and indicates the role played by the PIU. The principal functions of PIU are as follows:

- *Provision of pwr conversion from the s/c primary pwr system to the secondary voltages required by the sensor units.*
- *Provision of the power management system to switch, on ground command, the sensor units through power-switches which also provide over-current protection against failures in the sensor units.*
- *Control by command of the sensors' function; integration and packetisation of the data from the sensors.*
- *Provision of a data i/f to the s/c, which implements at least the minimum set of packet services required.*
- *On-board data processing for the MAG sensor unit, which has no processor incorporated in its own electronics.*

No single point failure should disable PIU, and any single point failure should disable no more than one experiment unit (and should not affect the performance of any other). This requirement establishes that PIU must be designed to be tolerant of any single point failure, and should allow for graceful degradation in the event of multiple failures. The RPC is therefore provided with two independent connections to the spacecraft power, service signal, and data systems. These connections are managed by PIU to provide a single set of connections to each sub-experiment. The PIU provides, in a redundant configuration, data handling and power conversion. Each secondary voltage to each sub-experiment is individually switched and current limited.

A block diagram of the PIU (Figure 1.2-15) shows the dual-redundant processor and power supply configuration. The processor and interface units provide the data-handling interface between the spacecraft and the experiments, and also control the power switches which distribute power within RPC. The processor and DC/DC converter units are used in a 'cold redundant' fashion.

Embedded software operating in the PIU processor will handle the complex packet services and data management protocols required by the spacecraft. The PIU will also monitor the sub-experiments health and safety, and will take autonomous action in order to prevent damage from occurring.

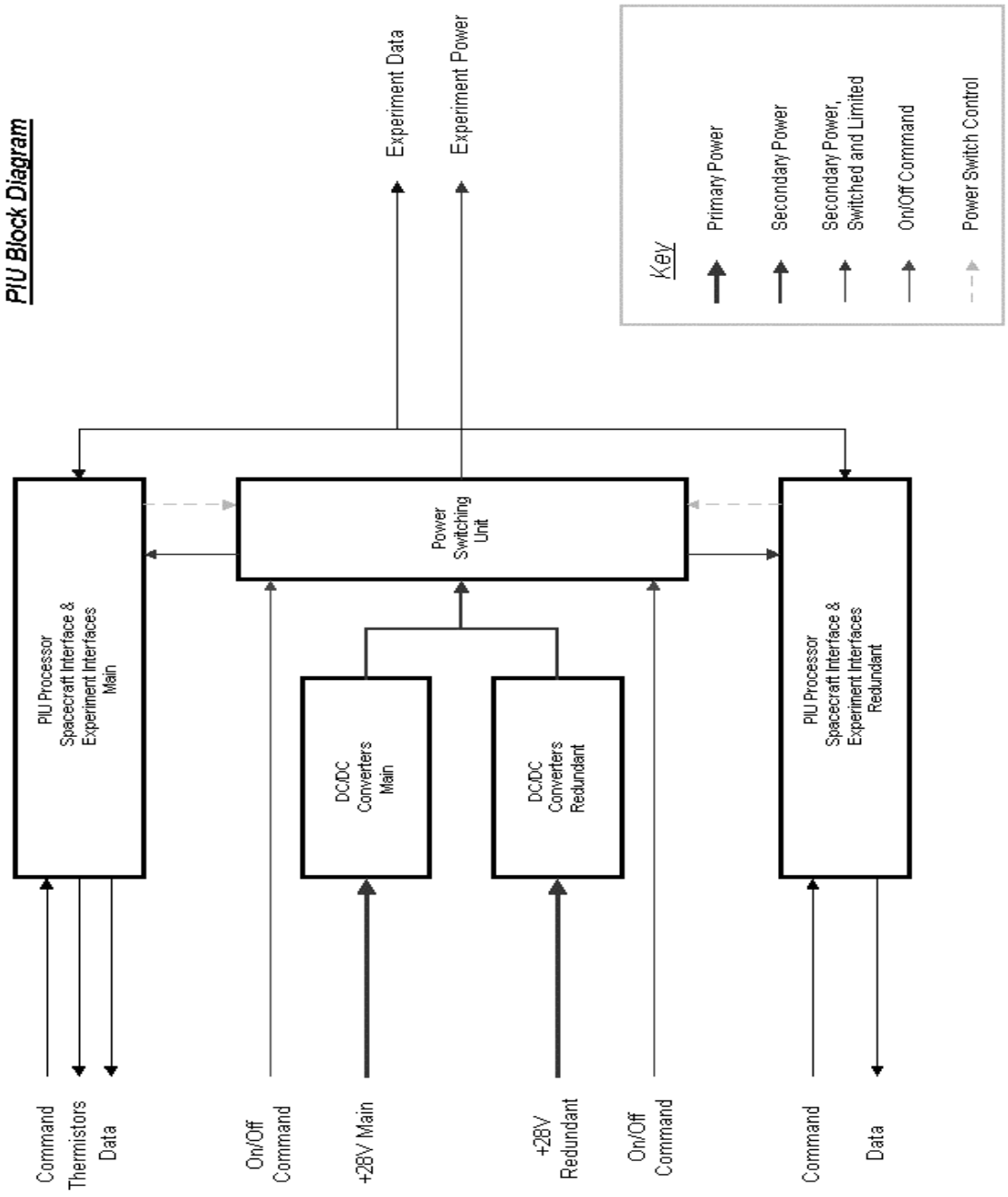


Figure 1.2-15: Plasma Interface Unit (PIU) Block Diagram

2.0 Experiment Configuration

2.1 Physical

The following diagram shows the approximate bench set up of RPC and refers to Figure 1.2-1 and Figure 1.2-2 for the experiment layout on the satellite.

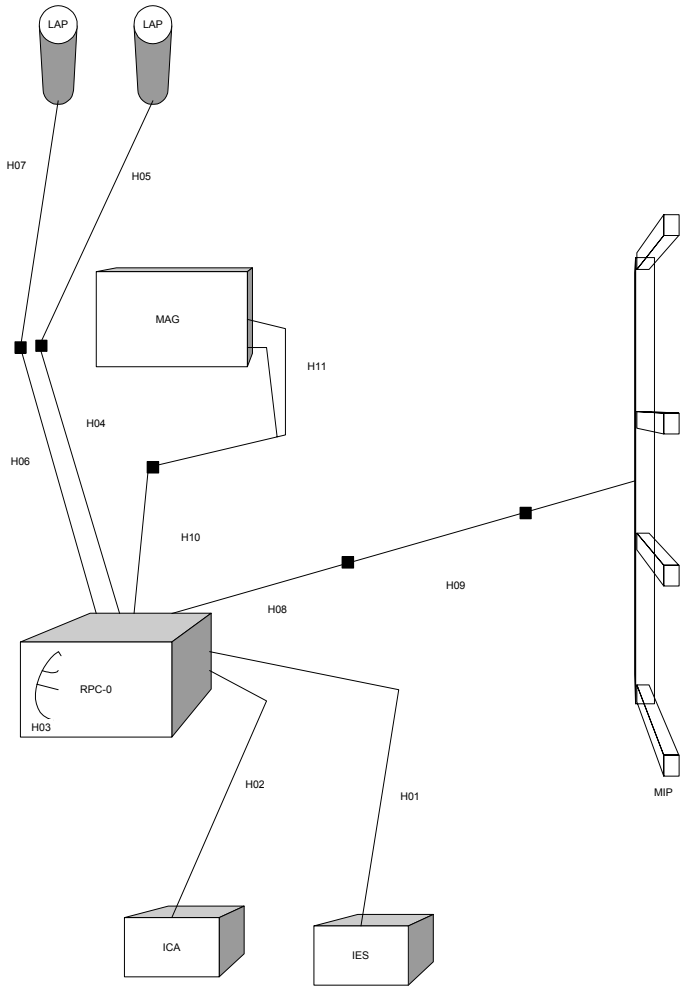


Figure 2.1-1: RPC Bench Setup

2.1.1 PIU

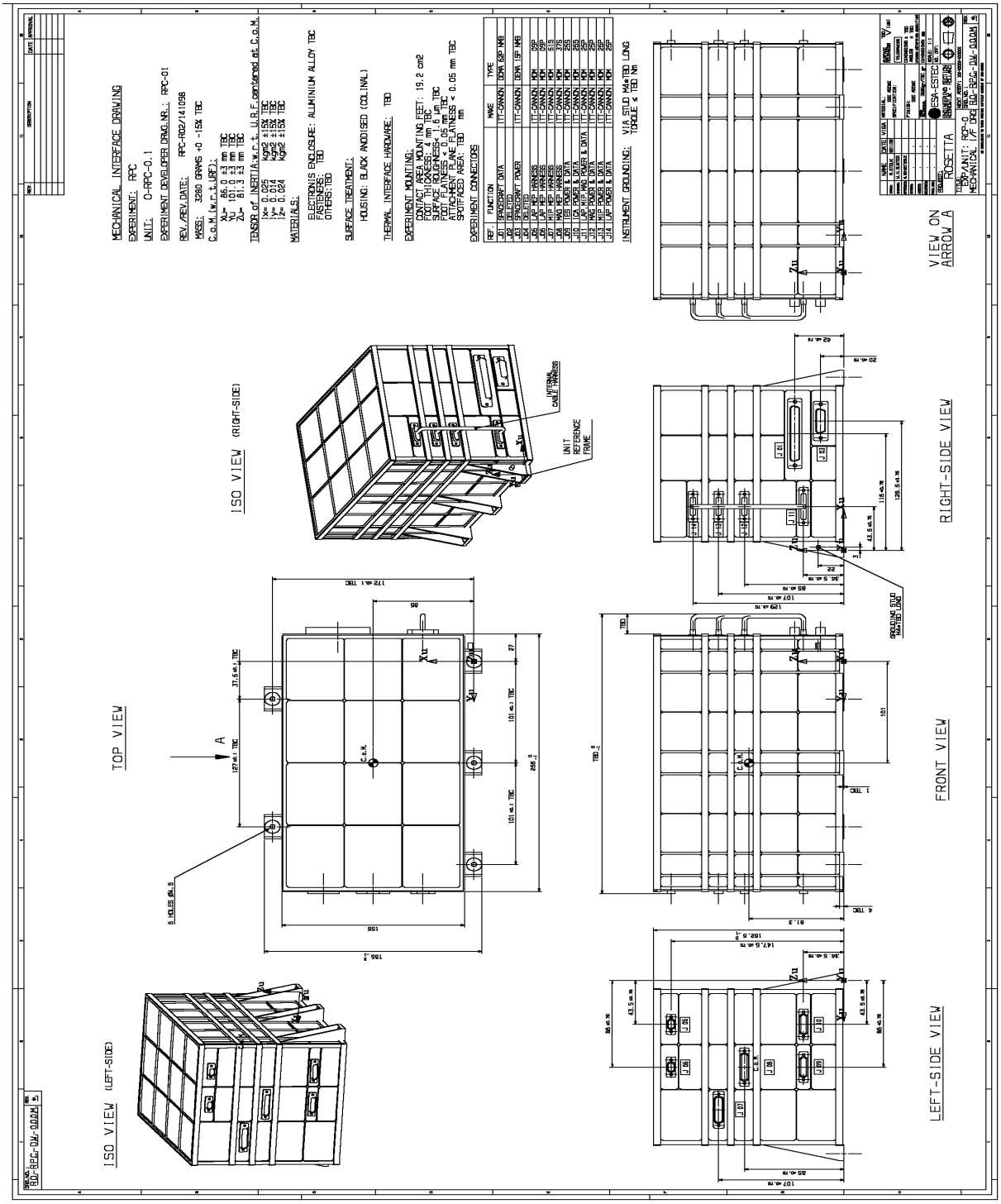


Figure 2.1-2: RPC-0 (PIU) Mechanical Interface Drawing

2.1.2 IES

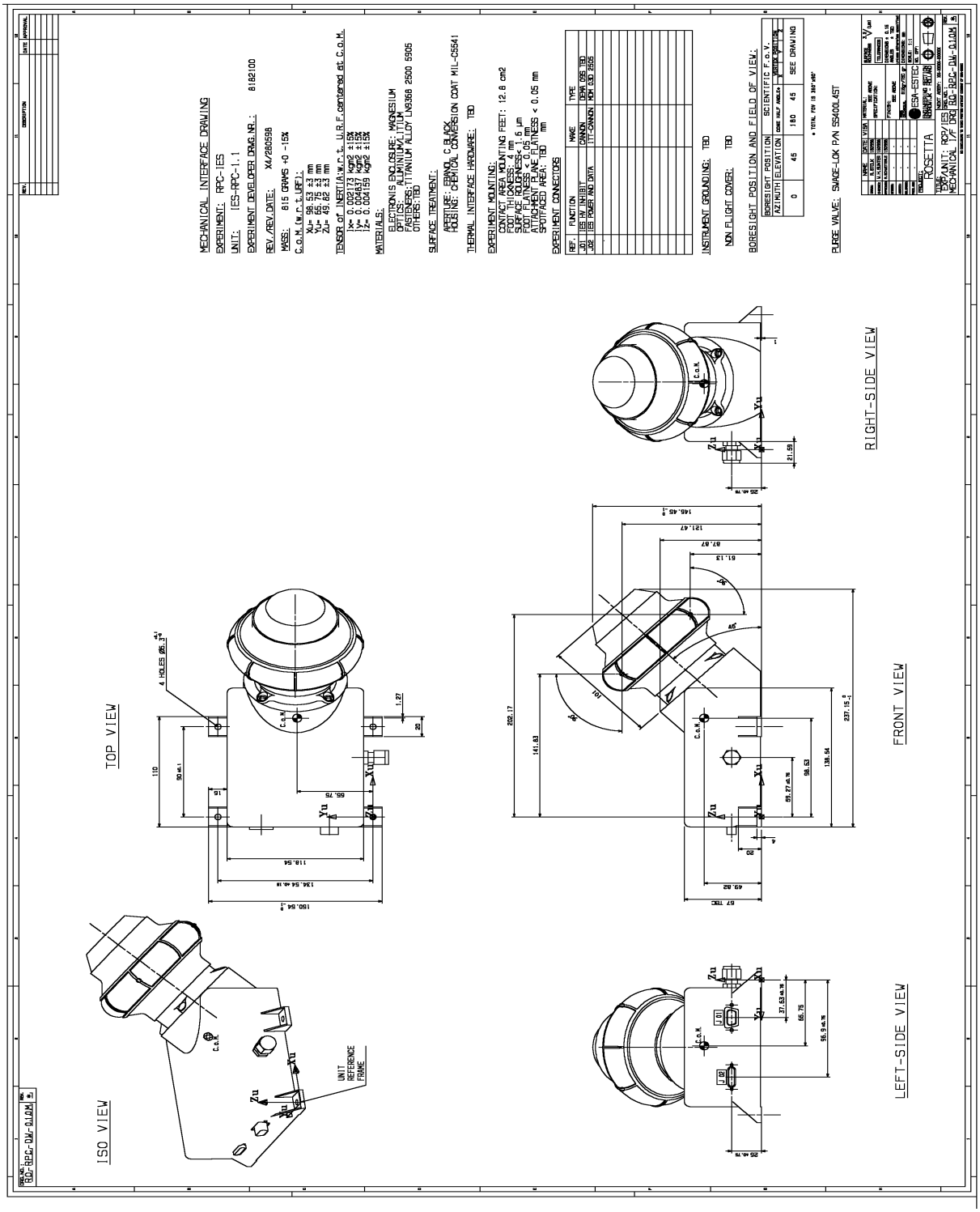


Figure 2.1-3: IES Mechanical Interface Drawing

2.1.3 ICA

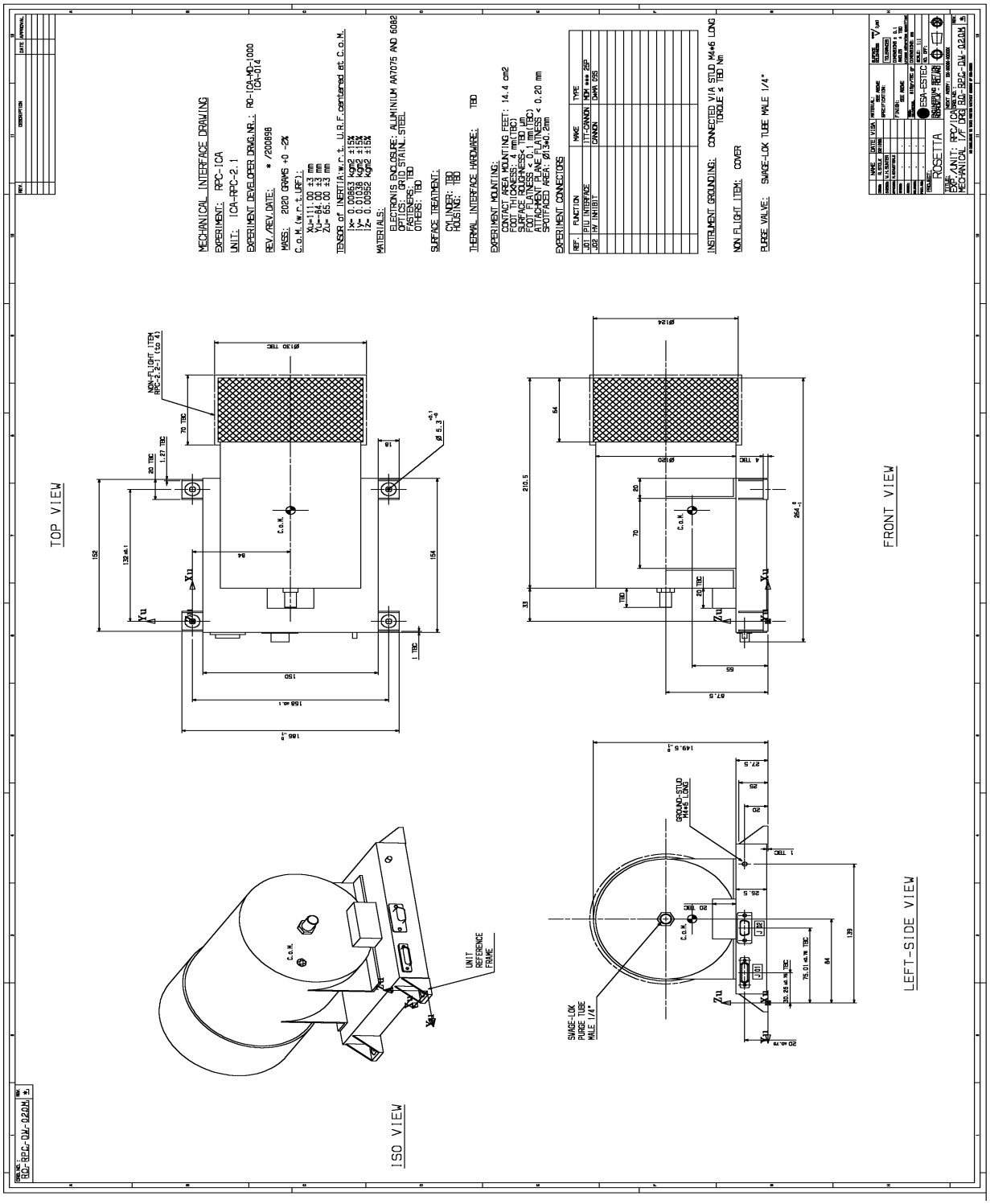


Figure 2.1-4: ICA Mechanical Drawing

2.1.4 LAP

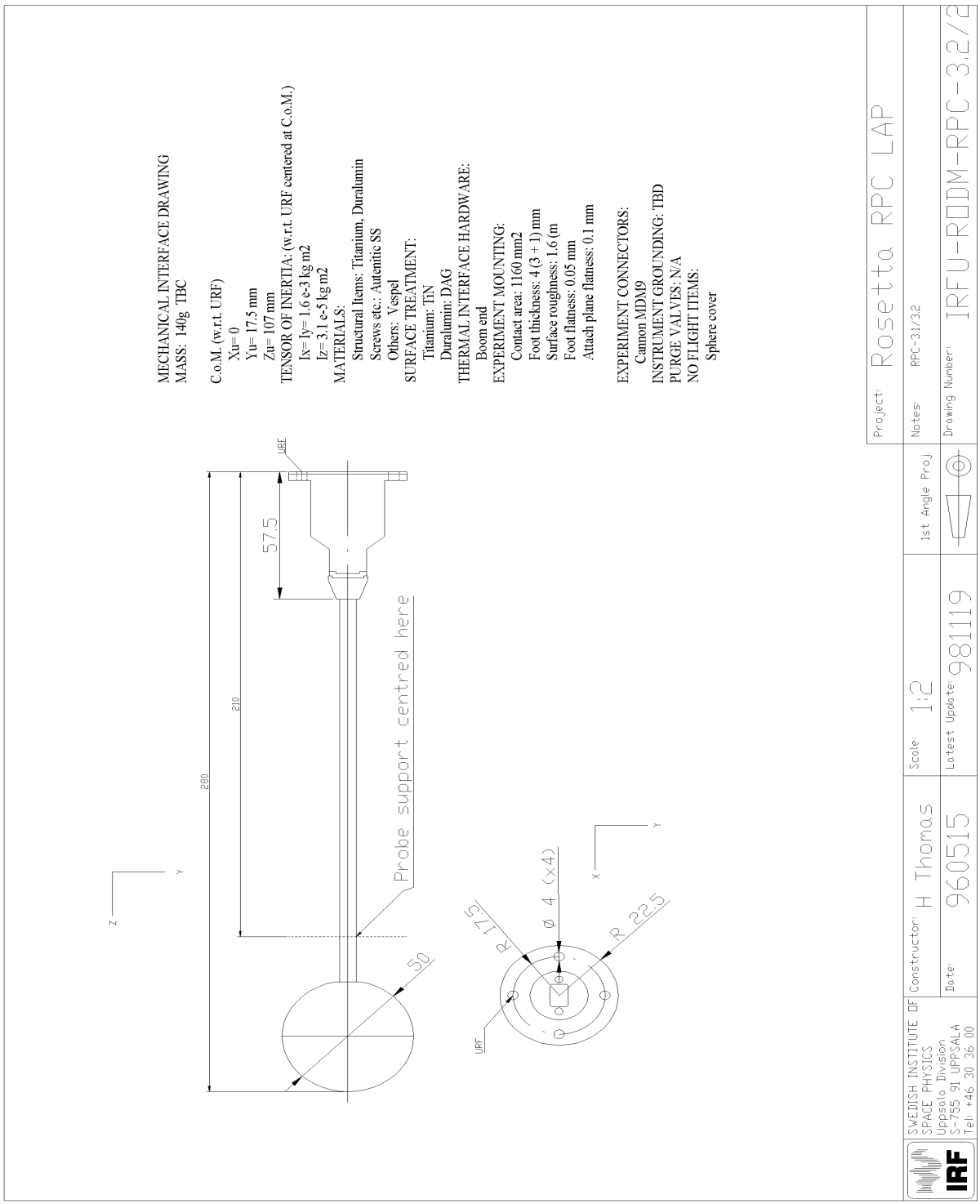


Figure 2.1-5: LAP Mechanical Interface Drawing

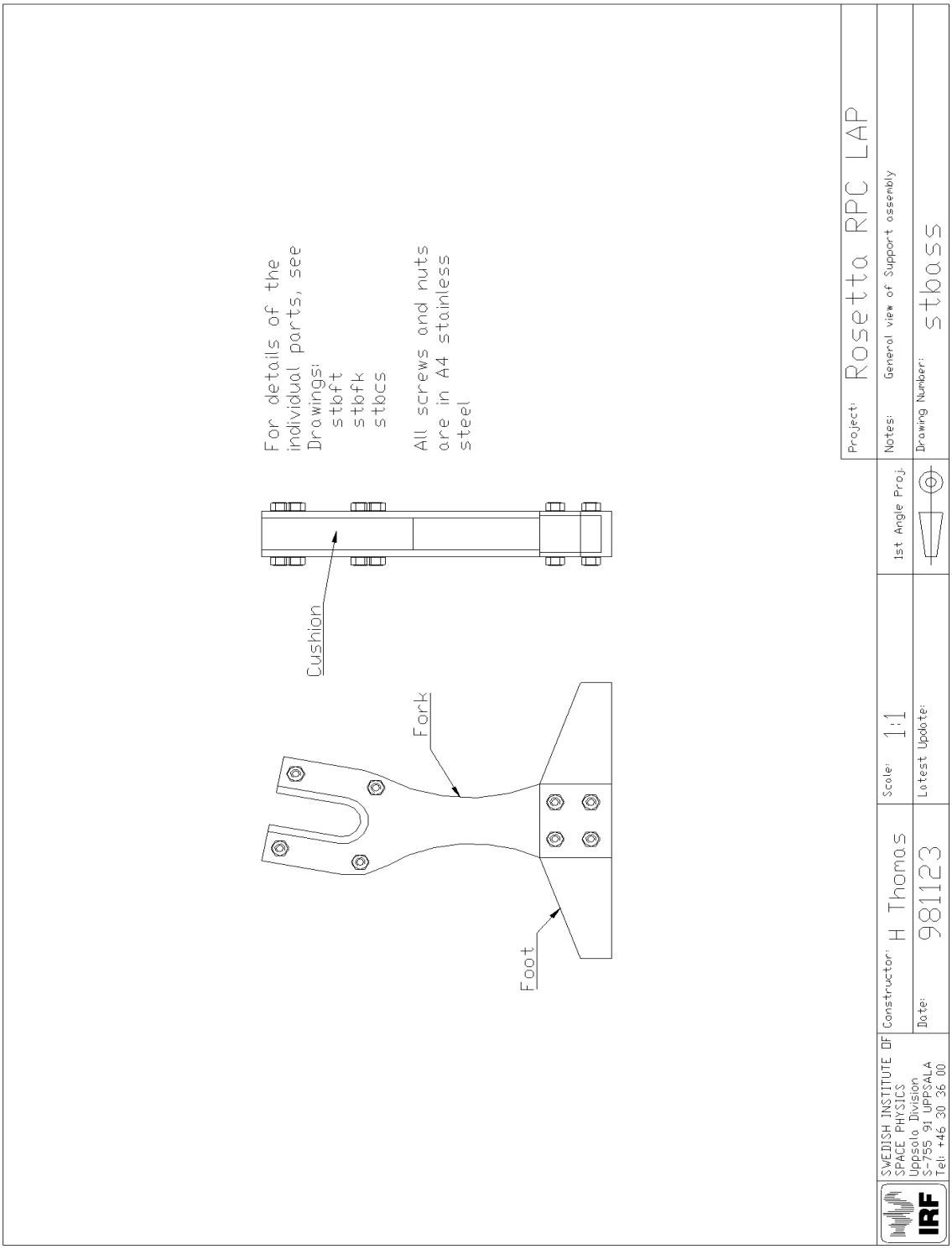


Figure 2.1-6: LAP Support Bracket Mechanical Interface Drawing

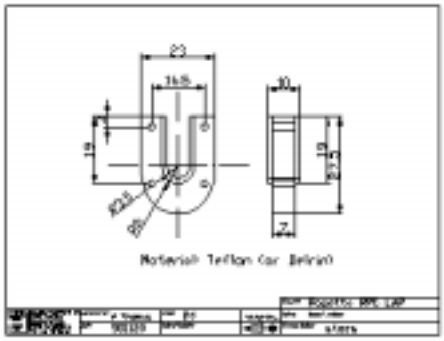


Figure 2.1-7: LAP Support Bracket Mechanical Interface Drawing

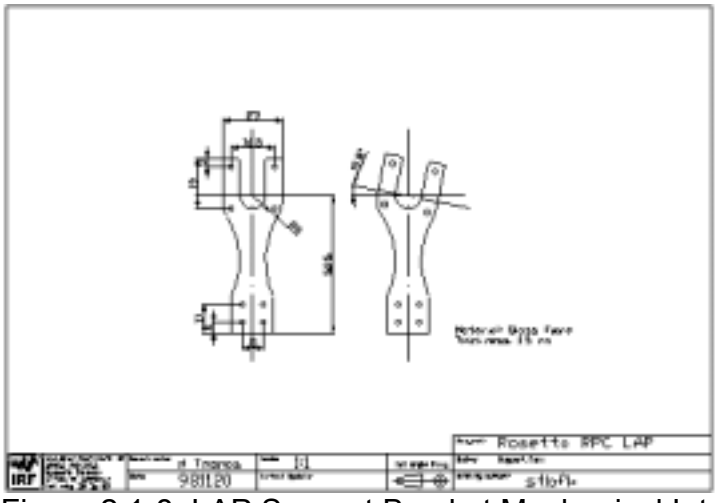


Figure 2.1-8: LAP Support Bracket Mechanical Interface Drawing

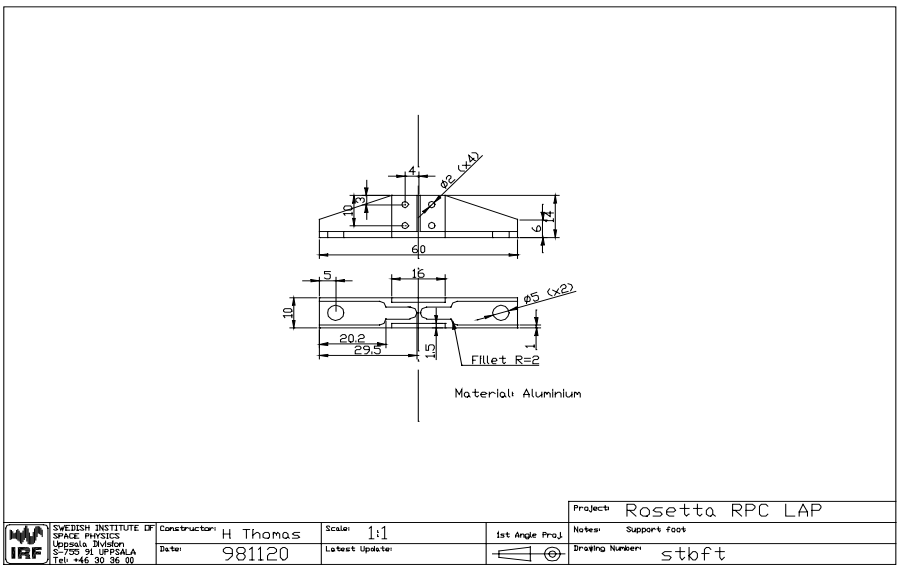


Figure 2.1-9: LAP Support Bracket Mechanical Interface Drawing

2.1.5 MIP

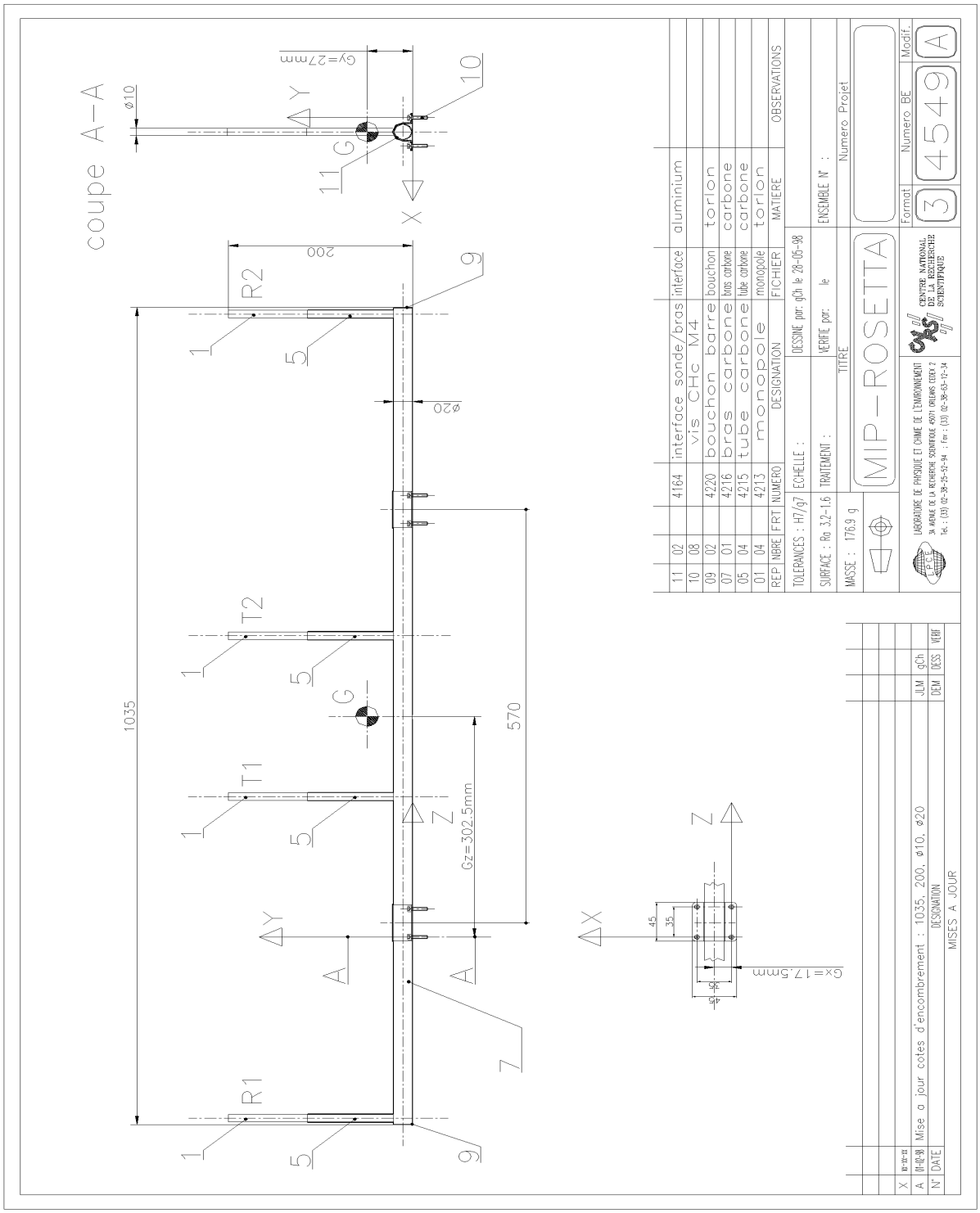


Figure 2.1-10: MIP Mechanical Interface Drawing

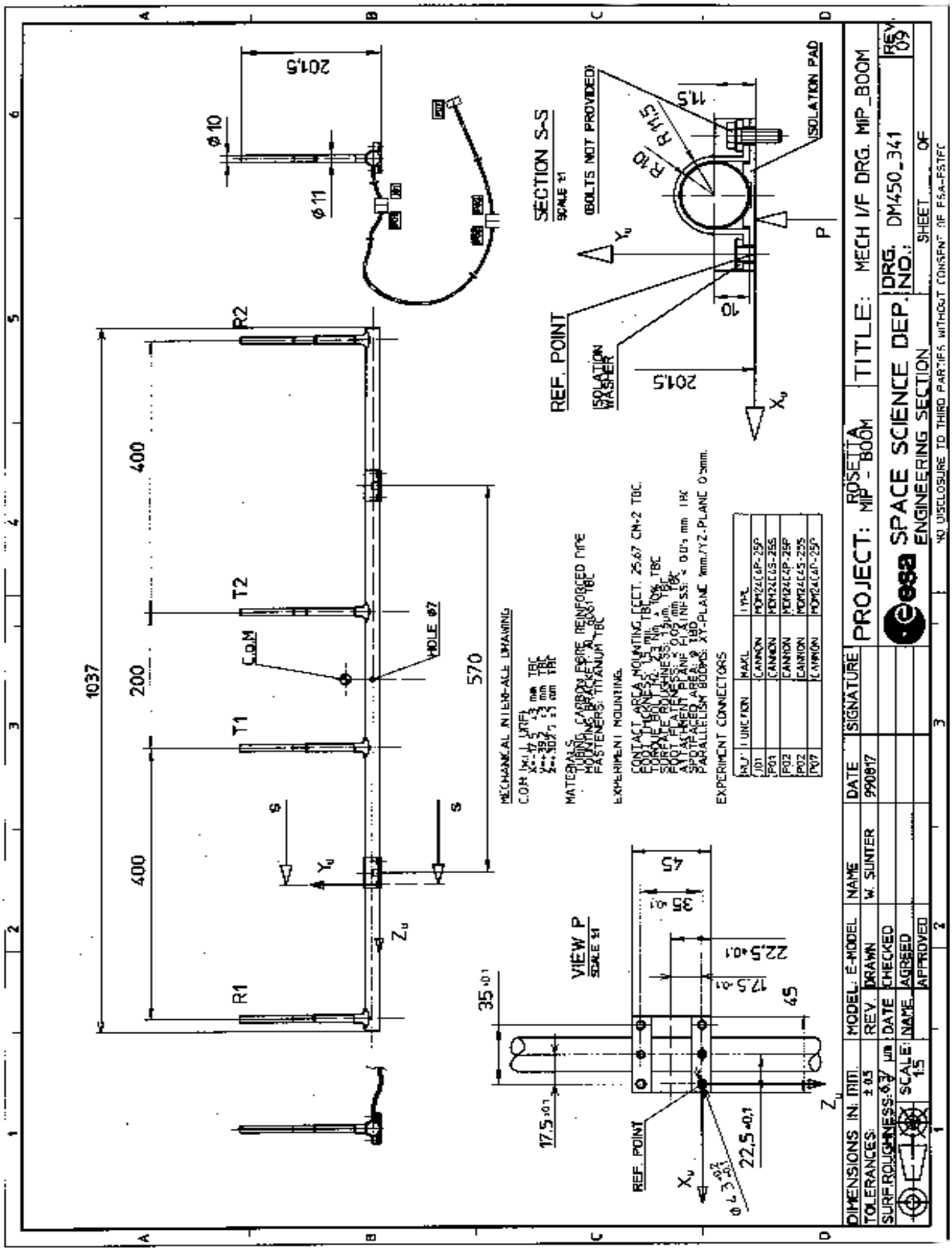


Figure 2.1-11: MIP Mechanical Interface Drawing

2.1.6 MAG

The following drawings show the MAG Inboard and Outboard sensors as wekll as the Mumetal Stimuli configuration and mirror location for possible alignment measurements (this is no flight item).

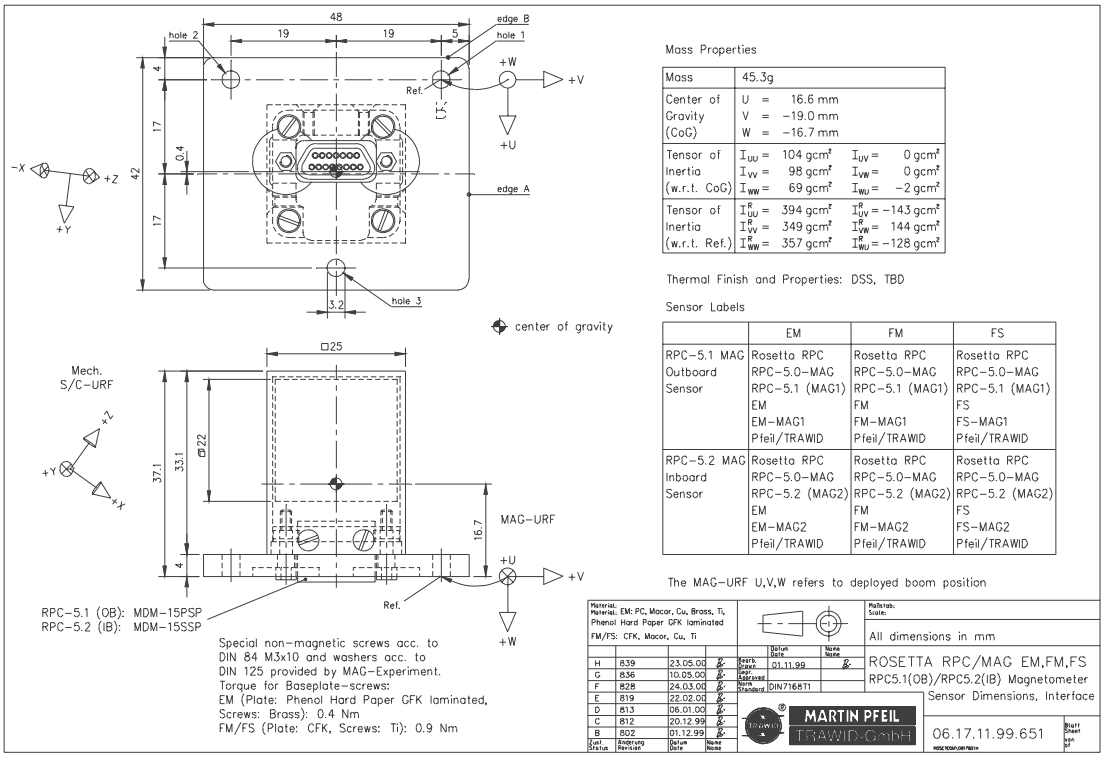

48
19
19
5
hole 2
hole 1
edge B
edge A
hole 3
Ref.
+W
+V
+U
-X
+Z
+Y
4
17
17
0.4
4.2
3.2
center of gravity
Mech.
S/C-URF
□25
Ø22
37.1
33.1
16.7
MAG-URF
RPC-5.1 (OB): MDM-15PSP
RPC-5.2 (IB): MDM-15SSP
Special non-magnetic screws acc. to
DIN 84 M3x10 and washers acc. to
DIN 125 provided by MAG-Experiment.
Torque for Baseplate-screws:
EM (Plate: Phenol Hard Paper GFK laminated,
Screws: Brass): 0.4 Nm
FM/FS (Plate: CFK, Screws: Ti): 0.9 Nm
Mass Properties
Mass 45.3g
Center of Gravity (CoG) U = 16.6 mm V = −19.0 mm W = −16.7 mm
Tensor of Inertia (w.r.t. CoG) I_{UU} = 104 gcm² I_{UV} = 0 gcm² I_{VV} = 98 gcm² I_{VW} = 0 gcm² I_{WW} = 69 gcm² I_{WU} = −2 gcm²
Tensor of Inertia (w.r.t. Ref.) I^R_{UU} = 394 gcm² I^R_{UV} = −143 gcm² I^R_{VV} = 349 gcm² I^R_{VW} = 144 gcm² I^R_{WW} = 357 gcm² I^R_{WU} = −128 gcm²
Thermal Finish and Properties: DSS, TBD
Sensor Labels
RPC-5.1 MAG Outboard Sensor: EM: Rosetta RPC, RPC-5.0-MAG, RPC-5.1 (MAG1), EM, EM-MAG1, Pfeil/TRAWID; FM: Rosetta RPC, RPC-5.0-MAG, RPC-5.1 (MAG1), FM, FM-MAG1, Pfeil/TRAWID; FS: Rosetta RPC, RPC-5.0-MAG, RPC-5.1 (MAG1), FS, FS-MAG1, Pfeil/TRAWID
RPC-5.2 MAG Inboard Sensor: EM: Rosetta RPC, RPC-5.0-MAG, RPC-5.2 (MAG2), EM, EM-MAG2, Pfeil/TRAWID; FM: Rosetta RPC, RPC-5.0-MAG, RPC-5.2 (MAG2), FM, FM-MAG2, Pfeil/TRAWID; FS: Rosetta RPC, RPC-5.0-MAG, RPC-5.2 (MAG2), FS, FS-MAG2, Pfeil/TRAWID
The MAG-URF U,V,W refers to deployed boom position
All dimensions in mm
ROSETTA RPC/MAG EM,FM,FS
RPC5.1(OB)/RPC5.2(IB) Magnetometer
Sensor Dimensions, Interface
MARTIN PFEIL
TRAWID GmbH
06.17.11.99.651

Figure 2.1-12: MAG Sensor Dimensions

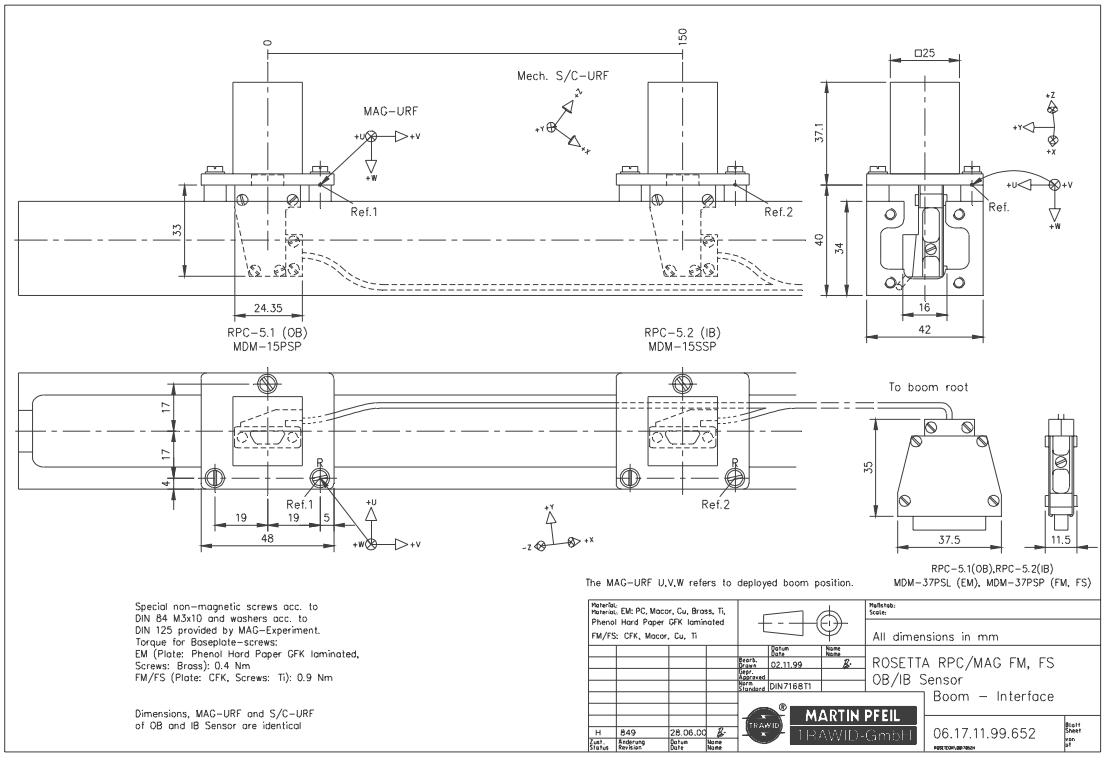


Figure 2.1-13: MAG Sensor Boom Interface

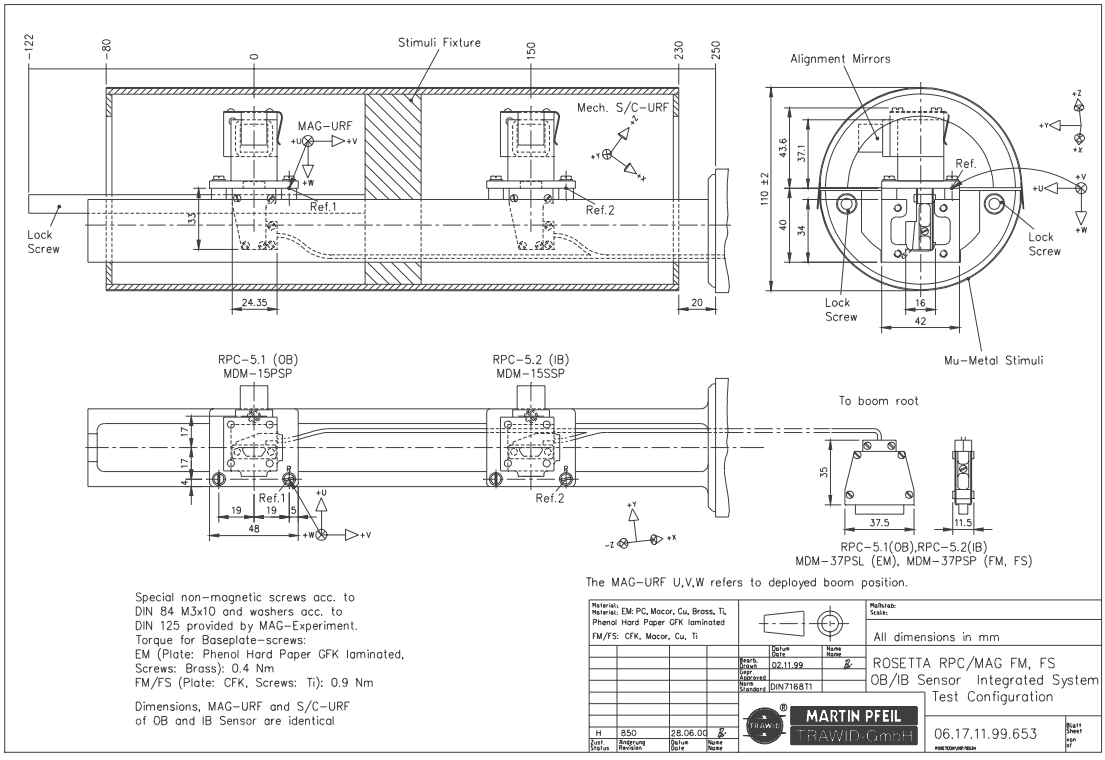


Figure 2.1-14: MAG Sensor Integrated System Test Configuration

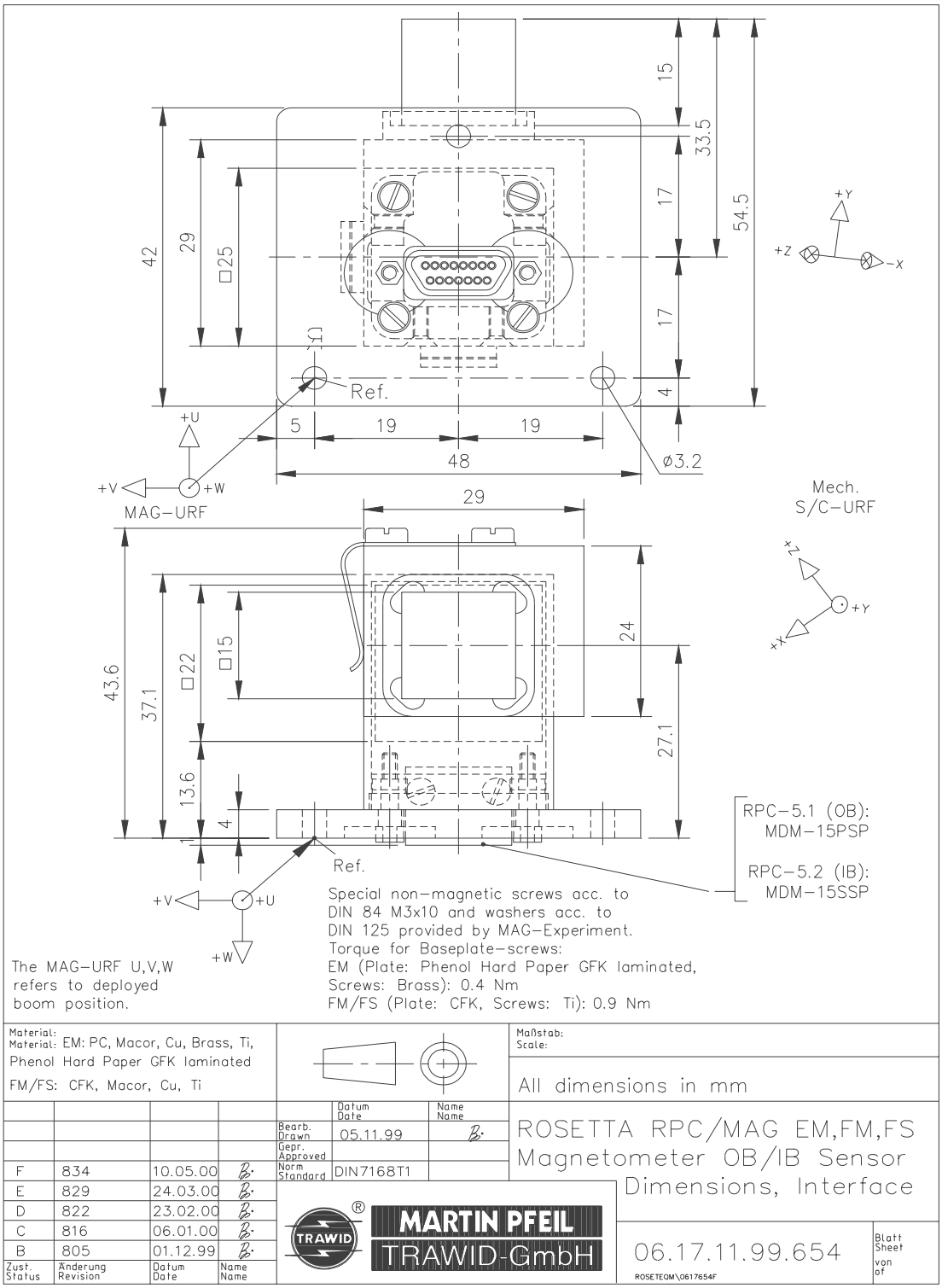


Figure 2.1-15: MAG Sensor Dimensions, Interface

2.2 Electrical

2.2.1 Power Interface Requirements

2.2.1.1 General Interface Description

The RPC low-voltage DC/DC converters are part of the PIU. The converters are fully redundant, the non-operating converter being held in cold redundancy. The non-synchronised PIU low-voltage converters will operate at a frequency of 65.5 kHz. +/- 5%.

RPC will not use the keep alive power interface provided by the spacecraft.

The interface to the spacecraft is designed to prevent any single point failure which could lead to a short circuit.
To further protect the spacecraft and the RPC, the converter includes a current limiting trip-out and slow turn on circuit at the input.

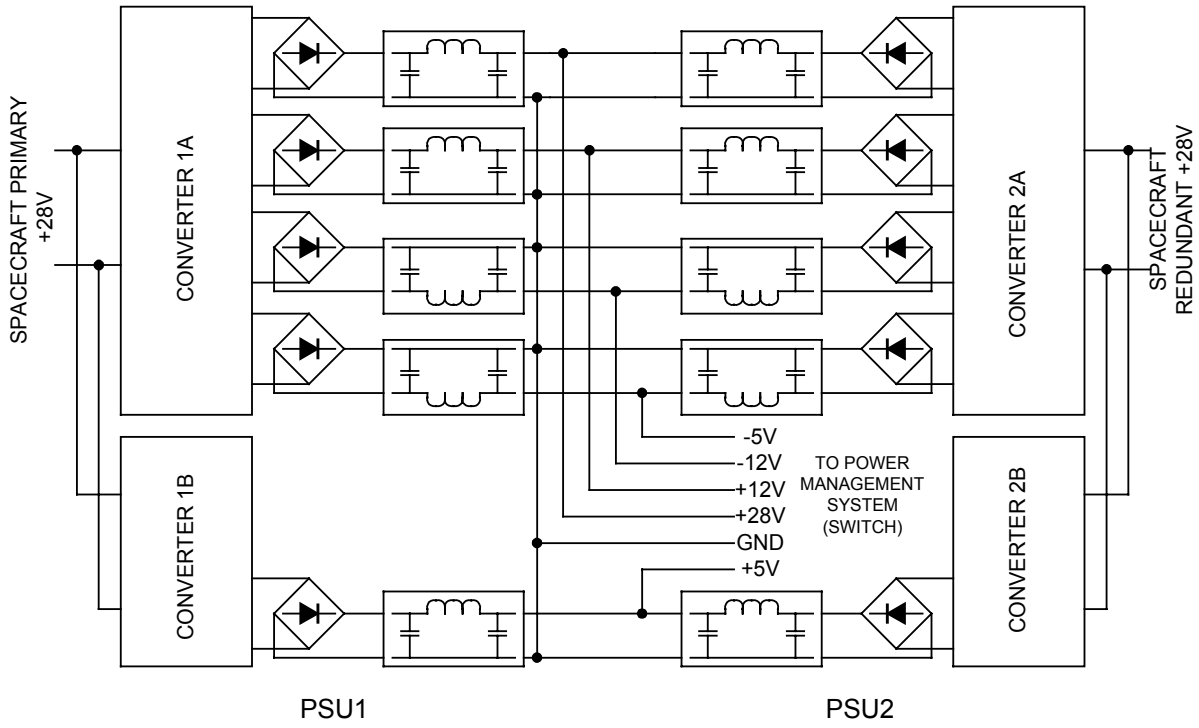
Function	Number of Main Lines Required	Number of Redundant Lines Required	LCL Class (place holder only, to be assigned by Project)
+ 28 V MAIN BUS RPC Experiment Supply (Switched and Current limited)	1	1	C (44 W / 1.6 A trip-off limit)
+ 28 V MAIN BUS Non-op. Heater Power For IES (Switched and Current limited)	1	1	A (11 W / 0.4 A trip-off limit)
Converter Synchronisation Signal (no longer baselined)	0	0	
Keep-Alive Supply	0	0	

Table 2.2-1: Power Supply Interface Requirements

2.2.1.2 Power Distribution Block Diagram and Redundancy

The RPC Power Supply Unit consists of two, identical pairs of DC-DC Converters in cold redundancy. Each PSU is capable of supplying the total power required for the functioning of the complete RPC instrument. Each PSU consists of two DC-DC converters, one to provide 4 secondary voltages: +28 V, ±12 V and -5 V, the other +5 V (all voltages nominal). The two PSUs receive raw +28 V (nominal) input voltages from the Prime and Redundant spacecraft power interfaces. Switching between the PSUs is performed by switching the input between the spacecraft Primary to Redundant supplies.

The PSU secondary voltages are distributed to the user subsystems (ICA, IES, LAP, MAG, MIP, PIU) through the Power Management System. This consists of individual current-limited voltage switches switched on or off by ground command through hardware configuration commands received and decoded in the spacecraft interface units.



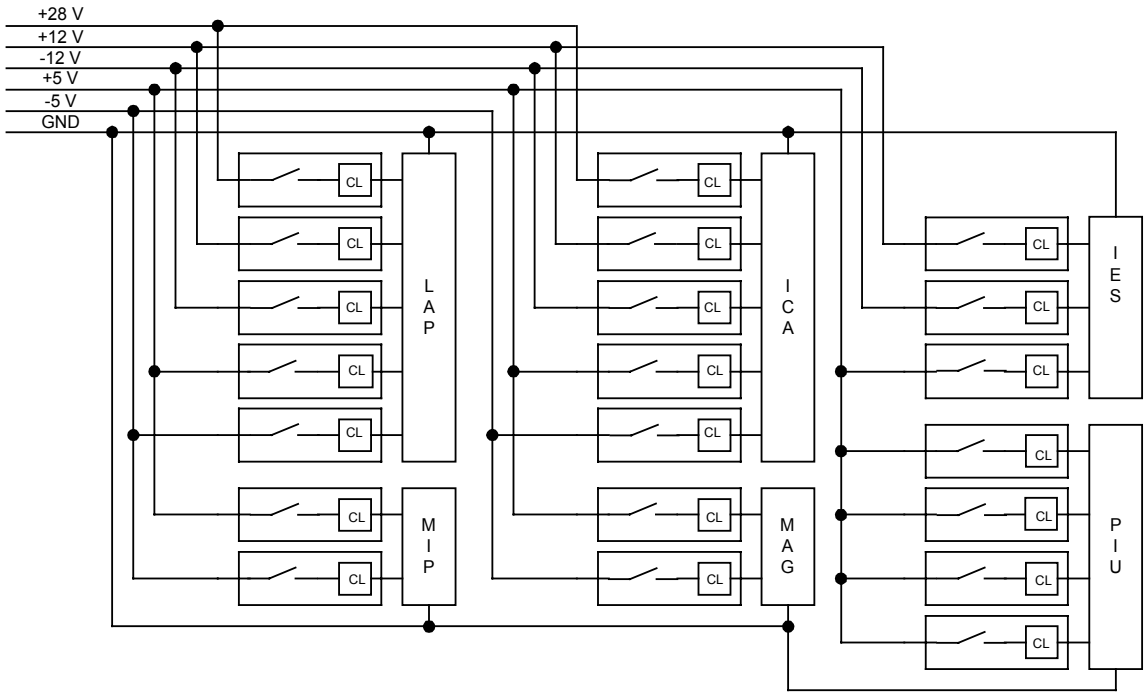


Figure 2.2-1: RPC Power Distribution Block Diagram

2.2.1.3 Experiment Power Requirements

The operational macro modes of the RPC package are defined in section 4.2.

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	mA @ +5V		ma @ -5V		mA @ +12V		mA @ -12V		mA @ +28V		Sec Pwr /mW		Pri Pwr /mW	
Unit	Nom.	Max.	Nom.	Max.	Nom.	Max.	Nom.	Max.	Nom.	Max.	Nom.	Max.	Nom.	Max.
IES	200	200	40	40	45	45	40	40			2220	2220	2960	2960
ICA	400	462	75	75	15	28	15	27	30	30	3575	4185	4767	5580
LAP	105	170	10	10	10	35	10	10	15	18	1235	1944	1647	2592
MIP	280	300	45	45							1625	1725	2167	2300
MAG	83	86	59	62							710	740	946.7	986.7
PIU	210	235									1050	1175	1400	1567
Total mA	1278	1453	229	232	70	108	65	77	45	48				
Total mW	6390	7265	1145	1160	840	1296	780	924	1260	1344	10415	11989	13887	15985

Table 2.2-2: RPC Power Requirements

2.2.1.4 Interface Circuits

Each of the RPC PSUs have an interface to the spacecraft which is designed to prevent short circuit under any single-point failure. This interface also features a current limited trip-out switch to protect the RPC, and a slow turn on circuit which will comply with the inrush current and current slew specifications of the spacecraft LCL.

The interface is also compliant in respect of reverse-current generation, and will operate safely under any of the over/under voltage situations as detailed in the EID-A.

2.2.2 OBDH Interface Requirements

2.2.2.1 Channel Allocation

Interface	Signal Type or Function	Main	Redundant
Telecommand Channels	Memory Load Commands	1	1
	High Power ON/OFF Commands	1	1
Telemetry Channels	16 Bit Serial Digital Channel	1	1
Monitor Channels	Spacecraft Powered Thermistors	3	0
	Bi-level Channels	0	0
	Analogue Channels	0	0
Timing Channels	High Frequency Clock	1	1
	Broadcast Pulse	1	1
Special Synchronisation Channels	Converter Synchronisation Signal	0	0

Table 2.2-3: Experiment OBDH Interface Channels/Functions

Note:
The high power On/Off channel will be used to select either the main or redundant PIU data-processing unit. This is independent of the main or redundant LCL selection.

2.2.2.2 Bit Rate Requirements

RPC package will accommodate available telemetry resources during all phases of the mission. There are baselined three operational scenarios:

Minimum:
absolute minimum requirement for safe sensor/unit operation, with minimal data products (just HK, ref. Table 4.2-2)
54 bit/s PIU + 23 bit/s experiments = 77 bits/s for RPC

Normal:
adequate for normal operation, compatible with routine operations:
392 bit/s

Burst:
for transmission of high resolution or raw data products to on-board burst memory:
5239 bit/s

The above data rates are including packet overheads.

Contained within this requirement is a housekeeping bit-rate of 20 bit/s (Normal and Burst). This can be reduced to 1 bit/s (Minimum).

The operational duty cycles for the above bitrate scenarios are TBD.
The above data rates represent a typical operational scenario. Although representative of the actual data rates, exact figures are difficult to provide due to the complexity of the RPC package and lack of full operational details. Refer to section 2.3.1.1.

2.2.2.3 Timing

RPC requires the following timing channels/services:

- High Frequency Clock (redundant channel)
- Timer Synchronisation Pulse (redundant channel)
- Telecommand Time Packet

For the Timer Synchronisation Pulse, a repetition rate of 8 seconds is required. The time Packet will be required after PIU power-on, and thereafter approximately every day.

Timing information received from the spacecraft will be decoded in the PIU and distributed to the sub-experiment units to be used for time stamping of science telemetry data.

RPC has no special requirements on timing. A correlation of on-board time to UTC to within 100 ms is acceptable.

2.2.2.4 Monitoring

The PIU will monitor the reception and correct execution of all telecommands. The effect of every defined telecommand shall be verifiable by monitoring of the housekeeping.

The PIU will monitor specified internal voltages, temperatures, and digital status of all sensor units. Logic for corrective action and safe shut-down of sensors shall be built into the PIU.

The spacecraft is required to monitor three spacecraft powered thermistors for sensor units IES, ICA and MIP. Heaters are provided for IES and ICA, operable by the spacecraft according to TBD limit-set.

The PIU will monitor and verify correct reception for all TCs. Correct execution of a TC can be verified either by a change of state in the HK or the transmission of an execution acknowledge.

2.2.2.5 Electrical Interface Circuits

2.2.2.5.1 General

As indicated in section 2.2.2.1, the PIU digital electronics are fully redundant, with the redundant branch being powered off whilst the nominal branch is operational (and vice-versa). Branch selection is made with the high power ON/OFF command. Internally, PIU will implement no cross-over between the main and redundant receiver/driver circuits.

RPC Thermistor interfaces are not redundant.

Digital interface circuits will comply with the Standard Balanced Digital Link specification. SBDL interface circuits within PIU are designed such that unpowered circuits maintain a high impedance to the spacecraft.

2.2.2.5.2 SBDL Receiver Circuit Specification

Figure 2.2-2 shows the SBDL interfaces, main side only. All circuits are replicated for the redundant interface, according to the pin-out of the J01 connector given in EID-B section 2.6.4.

2.2.2.5.3 SBDL Driver Circuit Specification

The driver interface circuit is given in Figure 2.2-2.

2.2.2.5.4 Thermistors

Thermistors shall be of type TBC, selected from the standard range and supplied by the Prime.

2.2.2.5.5 High Power On/Off Command Interface

Figure 2.2-3 shows the High Power On/Off Command interface, main side only. The circuit is replicated for the redundant interface.

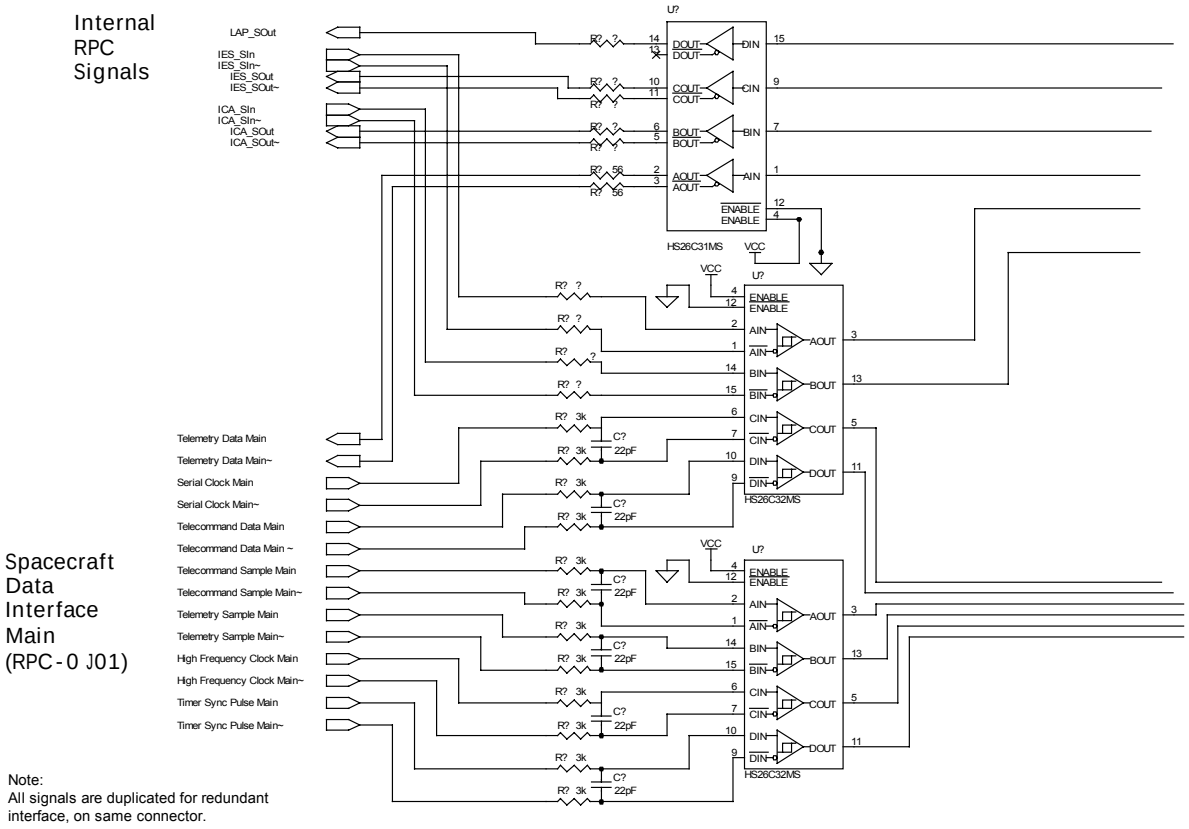


Figure 2.2-2: SDBL Interface Circuits

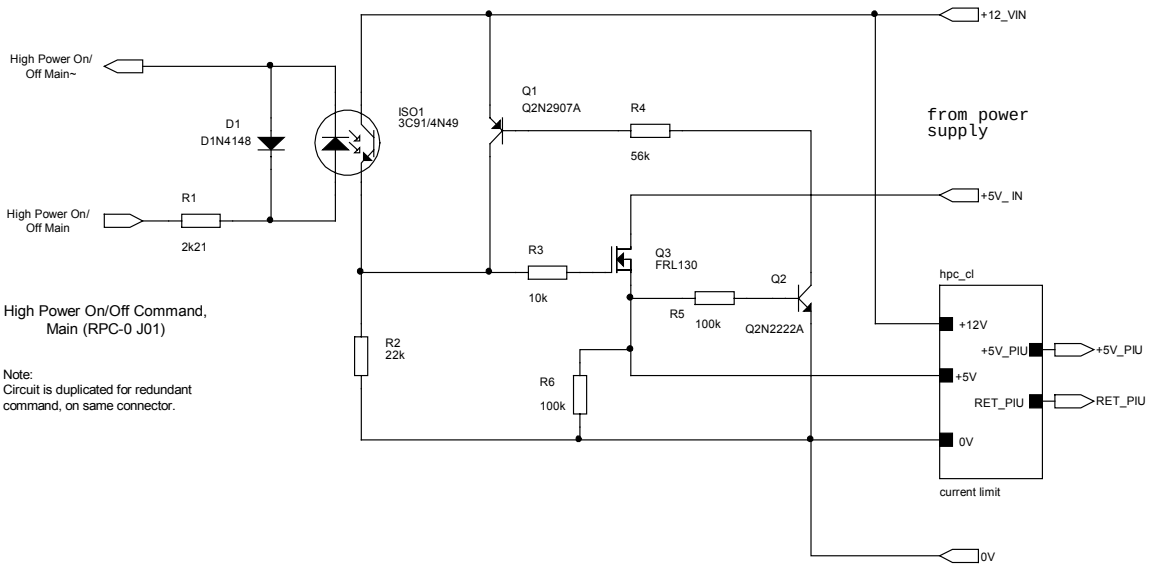


Figure 2.2-3: High Power Command Interface Circuit

2.3 Software

2.3.1 Software Concept and Functional Requirements

2.3.1.1 Software Overview

The PIU unit provides the interface between the five RPC experiments and the spacecraft for telecommanding and telemetry data. The RPC experiments IES, ICA, LAP and MIP contain micro-processors or micro-controllers, and operate semi-independently of the PIU; the MAG experiment contains no micro-processor – it delivers digital samples to the PIU, which is responsible for the processing and filtering of the data.

All the functionality of the packet services is the responsibility of the PIU. The PIU shall contain real-time code written in the 'C++' and assembler language of approximately 32 kWords in length. The software is dedicated to serving the interfaces to the spacecraft and the experiments as it's highest priority. Data transmitted to the spacecraft is double-buffered, to provide a seamless flow to the spacecraft at the highest possible rate, whilst still taking telemetry from the experiments. Commands received from the spacecraft are also buffered such that they may be received from the spacecraft at the fastest rate allowed on the OBDH bus.

The PIU software functions may be summarised as follows:

- *Receive and buffer commands from the spacecraft; remove packet formatting and forward command data to experiments.*
- *Receive and buffer science data from the experiments; packetise data and transmit to the spacecraft.*
- *Manage the packet services interface with the spacecraft.*
- *Control the status of the power switches which distribute secondary power within the RPC.*
- *Process and filter the MAG experiment data.*
- *Maintain a pool of experiments' housekeeping parameters, packetise and transmit these to the spacecraft.*
- *Monitor the status of the experiments, and perform any autonomous functions necessary to ensure health and safety.*

The RPC has a variety of operating modes, and not all the experiments are necessarily powered on at the same time. Furthermore, the experiments may switch between their minimum, normal and burst data rates independently of each other. The RPC must therefore be considered as providing six independent data streams, and as six independent units for telecommanding. A separate Process ID is, therefore, requested for each unit in section 2.3.1.5

All PIU software shall comply with the ESA software standard PSS-05-0. In addition, the 'Guide to applying software standards to small software projects', BSSC(96)2 shall also be applied.

2.3.1.1.1 MIP

All the MIP management and processing tasks are done by the onboard DSP Analog Devices 2100. The MIP software contains real-time code of 8 kwords in length (24-bit word). The processing activities are written in DSP assembly language and the management ones in C language.

The main tasks of the MIP software are :

- receive and decode the configuration table,
- generate the signal for the transmission electrodes (synthesizer function),
- perform the data acquisition from the sensor in active and passive modes,
- process the data (Fourier analysis),
- run the 32 s sequence (combination of active and passive modes),
- create the HK packets,
- packetise the science data (with MIP status header) before sending to PIU.

The data time stamp is made by the PIU (inside the CCSDS format header) every acquisition period, for science and HK packets.

The initialization of the MIP data handling is made using a configuration table of 6-byte length. The individual commands sent from the ground are combined by PIU to update the current MIP table. Then, PIU sends the table to MIP.

2.3.1.2 Autonomy Concept

The principal mode of operation of the RPC shall be by the execution of OBCPs initiated from the mission timeline. This approach shall maximise the flexibility of the RPC operational concept by removing autonomous operations from the experiments' hard-coded PROM software and placing the responsibility on the DMS (where it is assumed that the procedures may be 'fine-tuned' as the mission progresses). This approach should also enhance the safety and reliability of autonomous operations.

The PIU shall monitor specified fields within each experiments housekeeping data. If a parameter goes out of bounds then the PIU will generate a PIU event packet identifying the unit and the parameter which is out of bounds. Two sets of limits may be defined for each parameter – a warning level and a danger level. Each level will generate a different EID. Monitor functions with in the DMS shall detect either of these EIDs and use its data to trigger the correct OBCP to perform corrective or make-safe actions.

The PIU shall monitor the experiments' housekeeping data. Anomalies are reported to the DMS by event packets. Monitor functions within the DMS shall trigger the execution of RPC defined OBCPs in order to perform corrective or make-safe actions.

For fault conditions where the response time via the DMS is too long, the PIU may take autonomous actions to ensure that no damage occurs to the experiment. The action will typically be to power the experiment off. For example, in the event that the MIP watchdog detects a processor latch-up, the watchdog will send a signal to the PIU which will immediately power-off the MIP experiment.

Any such autonomous actions will be immediately signalled to the DMS by a PIU event packet identifying unit. In the case of the MIP example, the action taken by the spacecraft will then be to initiate the MIP power-on sequence.

2.3.1.2.1 MIP

All the elementary modes (Survey, Sweep, Passive and LDL) are independent. They are arranged into pre-programmed sequences. The selection of the type of sequence (type of mode combination) is done through the configuration table.
The first sequence run when MIP is turned on is a special Control one. It contains all the necessary information to make a rapid diagnosis of the health of the experiment (memory test, transmitter/receiver checking, input/output verification, command return). After a table reception (new command), MIP runs a Table sequence which has the same goal and the same output information as a Control one except the memory test information.
The LDL mode is common to MIP and LAP. It has to be managed and synchronized by PIU.

Special functions

MIP has an internal watchdog. In case of alarm, the alarm signal is transmitted to PIU to immediately switch off MIP.

2.3.1.3 Software Maintenance Approach

The PIU and the experiments LAP, IES, and ICA shall have a software patching capability. This shall be handled via the Memory Management service. In the case of the PIU, a contiguous block of the processor's SRAM or EEPROM may be loaded, dumped or checked (by a checksum) by the action of a single telecommand packet. For the LAP, IES and the ICA, this capability shall be available via the PIU, and the PIU shall provide the Memory Management service to the DMS for these experiments. The destination unit (either PIU, LAP, IES or ICA) for a load, dump or check telecommand shall be given by the packet's process ID. The response packet shall also be identified by the unit's Process ID.

MIP has no software maintenance possibility : no dump, no patch.

2.3.1.4 Software Storage

RPC proposes to use the spacecraft mass memory for storing software. It is intended that sufficient software will be held in ROM within the instrument to support the basic operations. However, it is expected that some additional routines will be up-linked during flight. For this reason two uses for the mass memory are foreseen: firstly, as a temporary store for code up-linked while the payload is off; secondly, as a store for code transferred out of the instrument prior to a payload switch off.

Procedures will be devised for the transfer of software to and from the spacecraft mass memory.

2.3.1.5 Data Delivery Concept

2.3.1.5.1 Process ID Requirements

The RPC package requires six Process IDs. The requested allocation is as follows (ref. to Table 2.8.1-1 in the EID-A):

USER	PROCESS ID	PACKET CATEGORY	PACKET TYPE	USAGE
PIU	83	1	TM	Acknowledge
		4	TM	Housekeeping – 1 sid
		7	TM	Event Packets
		12	TC	Memory Load
		12	TC	Memory Dump Request
		9	TM	Memory Dump
		12	TC	Memory Check Request
		7	TM	Memory Check Report
		12	TC	Time Update
		12	TC	Private TC
IES	84	1	TM	Acknowledge
		4	TM	Housekeeping – 1 sid
		7	TM	Event Packets
		12	TC	Memory Load
		12	TC	Memory Dump Request
		9	TM	Memory Dump
		12	TC	Memory Check Request
		7	TM	Memory Check Report
		12	TM	Science TM
		12	TC	Private TC
ICA	85	1	TM	Acknowledge
		4	TM	Housekeeping – 1 sid
		7	TM	Event Packets
		12	TC	Memory Load
		12	TC	Memory Dump Request
		9	TM	Memory Dump
		12	TC	Memory Check Request
		7	TM	Memory Check Report
		12	TM	Science TM
		12	TC	Private TC
LAP	86	1	TM	Acknowledge
		4	TM	Housekeeping – 1 sid
		7	TM	Event Packets
		12	TC	Memory Load
		12	TC	Memory Dump Request
		9	TM	Memory Dump
		12	TC	Memory Check Request
		7	TM	Memory Check Report
		12	TM	Science TM

		12	TC	Private TC
MIP	87	1	TM	Acknowledge
		4	TM	Housekeeping – 1 sid
		12	TM	Science TM
		12	TC	Private TC
MAG	88	1	TM	Acknowledge
		4	TM	Housekeeping – 1 sid
		7	TM	Event Packets
		12	TM	Science TM
		12	TC	Private TC

Table 2.3-1: RPC Telemetry Identifier

2.3.1.5.2 Science Data Delivery Concept

For each of the experiments which is powered and operating in 'normal' rate telemetry, RPC shall generate one science telemetry packet per 32 second Acquisition Period. The Acquisition Period is a common data gathering interval for the experiments and PIU; the start of each period is signalled to each of the experiments by a hardware pulse which is generated from the Timer Synchronisation Pulse divided by four. Each packet shall carry the Process ID of the generating unit. The packet category 'science' will be used for all science packets.

Each experiment will operate in one of six modes (independently of any other experiment). The following three modes are supported by all experiments:

- *Minimum*
- *Normal*
- *Burst*

The other three modes may be implemented as required by each instrument.

Since the data volume generated by some of the experiments in minimum mode is very small, transmission every 32 seconds is inefficient (due to the packet header overhead), therefore the data will be buffered and transmitted at a multiple of the Acquisition Period. Thus the packet generation period for IES, ICA, LAP and MAG minimum mode data is 1024 seconds, and for MIP it is 256 seconds. Conversely burst rate data for LAP & MAG will be fitted into 3 packets and 2 packets per AQP respectively. This is due the large volume of data which is unable to fir into a single TM packet. All normal rate data is transmitted at a 32 second period.

2.3.1.5.2.1 MIP

MIP has three science data rates :
- minimum with a 18-byte packet per 32s sequence,
- normal with a 198-byte packet per 32s sequence,
- burst with a 1200-byte packet per 32s sequence.

MIP transmits to PIU one science packet every acquisition period (32 seconds).

2.3.1.5.3 Housekeeping Data Delivery Concept

For each RPC unit (i.e. 5 experiments plus the PIU) the PIU shall collect HK data and store it in an internal HK data base. At the start of the RPC Acquisition period the PIU shall generate a single HK packet for each unit identified by the unit's housekeeping APID. The HK packet shall contain the latest data received from the experiments. The generation of the unit's housekeeping packets may be controlled using the standard service 3 TCc.

2.3.1.5.3.1 MIP

The HK data transmitted to PIU every acquisition period (32 seconds) are :
- 1 HK type I packet of 6 bytes in length,
- 1 HK type II packet of 6 bytes in length.

The 2 HK packets, the temperature value managed by MAG/PIU and a 2-byte identifier are combined to create an telemetry HK packet of 16 bytes in length.

2.3.1.5.4 Use of Event Packets

The PIU shall use the Event Reporting service to report both normal progress action as well as warnings which are detected during the operation of the RPC package
An event may also be generated by the PIU monitoring system which monitors all the RPC. These events will be monitored by the DMS so that they may trigger OBCPs. The possible events may be any of the following:

- *Parameter* Out of bounds Warning
- *Parameter* Out of bounds Danger
- *Autoshutdown occurrance*

Each of the three EID will identify the related unit in its parameters.

MIP does not create event packets.

The following list gives an overview about the Subtype 3 and Subtye 4 Events:

Event	EID	Probable Cause	Action
Ground Action Events (subtype 3)			
EC_MIPDogBArking		Mip Watchdog fired	Investigate causes
Ec_RxTimeout		Dead Experiment	Turn it off and contact RPC
Ec_Autoshutdown		Piu turned off experiment	Investigate causes
Ec_ChecksumFail		Piu Code is corrupted	Power cycle PIU (and this RPC)
Ec_RamTestFail		Ram failure on board	Investigate location and perform work around
Ec_NoNormalMode (IES)		Dead Experiment	Turn it off and contact RPC
Ec_NoNormalMode (ICA)		Dead Experiment	Turn it off and contact RPC
Ec_NoNormalMode (LAP)		Dead Experiment	Turn it off and contact RPC
Ec_NoNormalMode (MIP)		Dead Experiment	Turn it off and contact RPC
Ec_NoNormalMode (MAG)		Dead Experiment	Turn it off and contact RPC
OBCP Action Events (subtype 4)			
EC_ParameterMntrDngr		Parameter out of range	Decode parameters and power LCL off if necessary
EC_BadLdLSync		MIP and LAP are not agreeing this LDL state	Start LDL synchronizing procedure

Table 2.3-2: Subtype 3 and Subtype 4 Event List

2.3.1.6 Timing Requirements

The RPC has no specific requirements on timing accuracy beyond that given in the EID-A. The RPC shall use the Timer Synchronisation Pulse and the Time Packet to synchronise with spacecraft elapsed time. Within 20 seconds of the PIU power-on procedure, the PIU shall expect a time update by the Time Management service. This must be completed before any telemetry packets are sent. On receipt of the time update, the PIU shall load the time value into a ‘coarse time’ register. On each subsequent Timer Synchronisation Pulse the coarse time register will be incremented by 8 seconds. The PIU also receives the high frequency clock, which is used to drive the PIU’s tick timer. A

PIU tick is defined as 2^{-7} seconds or 2^{10} cycles of the HF clock and is used for the internal timing of PIU actions.
In order to maintain timing synchronisation throughout the RPC, each experiment receives a simultaneous hardware pulse every 32 seconds. This pulse is derived from the Timer Synchronisation Pulse divided by 4. Each pulse signifies the start of a new Acquisition Period to the experiment. Each experiment will time-stamp events in its data relative to the start of the Acquisition Period in which the data will be transmitted from the experiment, and will send this relative time-stamp to the PIU contained within the experiment's data. The PIU will then transmit the experiment's data to the DMS, and the time code of the packet will be the start of the Acquisition Period when the data was received. Ground processing software will reconstitute the event time by adding the relative time stamp to the packet time.

Note:
An exception to this protocol is the MAG experiment, as the processing of the MAG data is done with in the PIU science TM of the MAG experiment with the time of when the first vector was converted on the MAG board. By using the coarse time register, the current tick and the tick timer register the time stamp for these packets will be to a resolution to an accuracy of greater than 1 ms.

For all other packets, including acknowledgements and events, the time stamp will be generated by the coarse time registers and the current PIU tick. These packets will therefore, be marked to the accuracy of 2^{-7} s.

The ability of the RPC to maintain synchronisation with spacecraft elapsed time is dependent on the accuracy of the Timer Synchronisation Pulse interval. Given the stated jitter on the TSY is 2 μs, RPC time should be synchronised with the spacecraft to within 100 ms over a period exceeding 100 hours, however in practice a time update should be scheduled every 24 hours. The accuracy of the TSY interval needs to be further clarified in the EID-A (section 2.7.3.3).

2.3.2 Instrument Operating Modes

The RPC package is set of five individual sensors, each measuring different parameters of the cometary plasma. Each sensor can be operated in a variety of different modes. To make the operation of the package easier and to inhibit a too large number of individual modes, operational macro modes (OMM) are defined which allow to handle available power and telemetry resource requirements.

The following OMMs are distinguished:

- OMM 0: Hibernation mode
- OMM 1: Maintenance mode
- OMM 2: Calibration mode
- OMM 3: Normal mode
- OMM 4: Burst mode
- OMM 5: Flyby mode

These OMMs are described in section 4.2.1.1.

2.3.3 Packet Definitions

2.3.3.1 Packet Services Compliance

The table below gives all the packet services (mandatory and optional) with which RPC will be compliant.

Sub-type	Service Requests (TC)	Sub-Type	Service Reports (TM)
Service 1 – TC Acknowledge			
		1	Acceptance Success
		2	Acceptance Failure
		7	Execution Success
		8	Execution Failure
Service 3 – Housekeeping Reporting			
5	Enable HK Report for SID		
6	Disable HK Report for SID		
		25	HK Report for SID
Service 5 – Event Reporting			
		1	Normal Progress Report
		2	Anomaly Report – Warning
		3	Anomaly Report – Ground action
		4	Anomaly Report – Onboard action
Service 6 – Memory Management			
2	PATCH ABS		
5	DUMP ABS	6	DUMP ABS Report
9	CHECK ABS	10	CHECK ABS Report
Service 9 – Time Management			
1	Accept Time Update		
Service 13 – Large Data Transfer Service			
Not supported by RPC.			
Service 17 – Test Service			
1	Connection Test Request		
		2	Connection Test Report
Service 18 – Context Transfer			
1	Context Request		
		2	Context Report
3	Accept Context		

Sub-type	Service Requests (TC)	Sub-Type	Service Reports (TM)
Service 19 – Information Distribution			
10	ROSINA Pressure Info		
11	ROSINA Pressure Alert		
12	GIADA Dust Info		
Service 20 – Science Data Transfer			
1	Enable Science Report		
2	Disable Science Report		
		3	Science Report

Table 2.3-3: RPC Packet Services

2.3.3.2 Instrument Packet Definitions

2.3.3.2.1 Telecommand Description

There are two basic types of TCs that may be sent to RPC. The first is the High Power On/Off command – a pulse decoded in hardware for switching on PIU's processor. The second type is the Memory Load TC. These are used by all of the RPC experiments.

2.3.3.2.2 Telemetry Packet Definitions

The tables below give the structure and rules for the RPC HK and science TM packets.
For the TM Event packet definition refer to section section 6.2.

Telemetry Packet Information			
Packet Name	Minimum Science	Instrument	RPC-PIU
Packet Function	PIU Housekeeping Report		
Generation Rules	Every 32 seconds		
Header Information			
Process ID	83	Packet Category	HK
Service Type	3	Service Subtype	25
Structure ID	1	Packet Length	29
Data Field Information (Bit 15 – LSB)			
Word 0, Bits 6-15	PSUTemperature		
Word 0, Bit 5	MAG Power Switch Status		
Word 0, Bit 4	MIP Power Switch Status		
Word 0, Bit 3	LAP Power Switch Status		
Word 0, Bit 2	LAP HV Power Switch Status		
Word 0, Bit 1	ICA Power Switch Status		
Word 0, Bit 0	IES Power Switch Status		
Word 1, Bits 8-15	-5V Level		
Word 1, Bits 0-7	+5V Level		
Word 2, Bits 8-15	-12V Level		
Word 2, Bits 0-7	+12V Level		
Word 3, Bits 8-15	TC Count		
Word 3, Bits 0-7	+28V Level		
Word 4	Keyhole Word		
Word 5	Broadcast Pulse Count		
Word 6, Bits 5-15	Priority FIFO Level		
Word 6, Bit 4	RAM Map Flag		
Word 6, Bit 3	Normal / Maintenance Mode Flag		
Word 6, Bit 2	Main / Redundant Flag		
Word 6, Bits 0-1	System ID		
Word 7, Bits 2-15	Normal FIFO Level		
Word 7, Bits 0-1	Spare		
Word 8, Bit 15	MAG HK 1 Flag		
Word 8, Bit 14	MIP HK 2 Flag		
Word 8, Bit 13	MIP HK 1 Flag		
Word 8, Bit 12	LAP HK 2 Flag		
Word 8, Bit 11	LAP HK 1 Flag		
Word 8, Bit 10	ICA HK 4 Flag		
Word 8, Bit 9	ICA HK 3 Flag		
Word 8, Bit 8	ICA HK 2 Flag		
Word 8, Bit 7	ICA HK 1 Flag		
Word 8, Bit 6	IES HK 4 Flag		
Word 8, Bit 5	IES HK 3 Flag		
Word 8, Bit 4	IES HK 2 Flag		

Word 8, Bit 3	IES HK 1 Flag
Word 9	Spare

Table 2.3-1: RPC TM HK Packet Definition

2.3.3.2.2.1 IES TM Packet Definition

Telemetry Packet Information			
Packet Name	Minimum Science	Instrument	RPC-IES
Packet Function	Science Report		
Generation Rules	Every 1024 seconds when enabled		
Header Information			
Process ID	84	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	1	Packet Length	648
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Normal Science	Instrument	RPC-IES
Packet Function	Science Report		
Generation Rules	**Every 32 seconds when enabled**		
Header Information			
Process ID	84	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	2	Packet Length	208
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Burst Science	Instrument	RPC-IES
Packet Function	Science Report		
Generation Rules	Every 32 seconds when enabled		
Header Information			
Process ID	84	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	3	Packet Length	1008
Data Field Information			
TBD			

Table 2.3-2: RPC-IES TM Packet Definition

2.3.3.2.2.2 ICA TM packet Definition

Telemetry Packet Information			
Packet Name	Minimum Science	Instrument	RPC-ICA
Packet Function	Science Report		
Generation Rules	Every 960 seconds (average) when enabled		
Header Information			
Process ID	85	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	1	Packet Length	6148
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Normal Science	Instrument	RPC-ICA
Packet Function	Science Report		
Generation Rules	Every 192 seconds (average) when enabled		
Header Information			
Process ID	85	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	2	Packet Length	2478
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Burst Science	Instrument	RPC-ICA
Packet Function	Science Report		
Generation Rules	Every 32 seconds (max) when enabled		
Header Information			
Process ID	85	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	3	Packet Length	4092
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Calibration Science	Instrument	RPC-ICA
Packet Function	Science Report		
Generation Rules	Every 32 seconds (max) when enabled		
Header Information			
Process ID	85	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	4	Packet Length	1074
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Special Science	Instrument	RPC-ICA
Packet Function	Science Report		
Generation Rules	Every 32 seconds (max) when enabled		
Header Information			
Process ID	85	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	5	Packet Length	3198
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Test Science	Instrument	RPC-ICA
Packet Function	Science Report		
Generation Rules	Every 32 seconds (max) when enabled		
Header Information			
Process ID	85	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	6	Packet Length	600
Data Field Information			
TBD			

Table 2.3-3: RPC-ICA TM Packet Definition

2.3.3.2.2.3 LAP TM Packet Definition

For more details on the LAP commands refer to the
RPC LAP Instrument User Manual (IRFU-RPC-LAPUM).

Telemetry Packet Information			
Packet Name	Minimum Science	Instrument	RPC-LAP
Packet Function	Science Report		
Generation Rules	Every 1024 seconds when enabled		
Header Information			
Process ID	86	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	1	Packet Length	176
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Normal Science	Instrument	RPC-LAP
Packet Function	Science Report		
Generation Rules	Every 32 seconds when enabled		
Header Information			
Process ID	86	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	2	Packet Length	232
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Burst Science	Instrument	RPC-LAP
Packet Function	Science Report		
Generation Rules	Every 10.66 seconds (on average) when enabled		
Header Information			
Process ID	86	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	3	Packet Length	2996
Data Field Information			
TBD			

Table 2.3-4: RPC-LAP TM Packet Definition

2.3.3.2.2.4 MIP TM Packet Definition

Telemetry Packet Information			
Packet Name	Minimum Science	Instrument	RPC-MIP
Packet Function	Science Report		
Generation Rules	Every 32 seconds when enabled		
Header Information			
Process ID	87	Packet Category	Private
Service Type	20	Service Subtype	3
Structure ID	1	Packet Length	28*
Data Field Information			
MIP science data packet in minimum telemetry rate			

Telemetry Packet Information			
Packet Name	Normal Science	Instrument	RPC-MIP
Packet Function	Science Report		
Generation Rules	Every 32 seconds when enabled		
Header Information			
Process ID	87	Packet Category	Private
Service Type	20	Service Subtype	3
Structure ID	2	Packet Length	208*
Data Field Information			
MIP science data packet in normal telemetry rate			

Telemetry Packet Information			
Packet Name	Burst Science	Instrument	RPC-MIP
Packet Function	Science Report		
Generation Rules	Every 32 seconds when enabled		
Header Information			
Process ID	87	Packet Category	Private
Service Type	20	Service Subtype	3
Structure ID	3	Packet Length	1210*
Data Field Information			
MIP science data packet in burst telemetry rate			

Telemetry Packet Information			
Packet Name	Housekeeping	Instrument	RPC-MIP
Packet Function	MIP Housekeeping Report		
Generation Rules	Every 32 seconds when enabled		
Header Information			
Process ID	87	Packet Category	4
Service Type	3	Service Subtype	25
Structure ID	1	Packet Length	26*
Data Field Information			
MIP HK packet			

Telemetry Packet Information			
Packet Name	TC Verification	Instrument	RPC-MIP
Packet Function	Telecommand Verification Report		
Generation Rules	Every telecommand sent		
Header Information			
Process ID	87	Packet Category	1
Service Type	1	Service Subtype	1
Structure ID	1	Packet Length	14*
Data Field Information			
TC Verification			

Table 2.3-5: RPC-MIP TM Packet Definition

MIP-Note*: The cell 'Packet Length' is filled up with the effective value of the packet data field length, i.e. the experiment data length + 10 bytes of the data field header length (without the 6 bytes of the packet header).

2.3.3.2.2.5 MAG TM Packet Definition

Telemetry Packet Information			
Packet Name	Minimum Science	Instrument	RPC-MAG
Packet Function	Science Report		
Generation Rules	Every 256 seconds when enabled		
Header Information			
Process ID	88	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	1	Packet Length	40
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Normal Science	Instrument	RPC-MAG
Packet Function	Science Report		
Generation Rules	Every 32 seconds when enabled		
Header Information			
Process ID	88	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	2	Packet Length	208
Data Field Information			
TBD			

Telemetry Packet Information			
Packet Name	Burst Science	Instrument	RPC-MAG
Packet Function	Science Report		
Generation Rules	Every 32 seconds when enabled		
Header Information			
Process ID	88	Packet Category	Private
Service Type	20	Service Subtype	2
Structure ID	3	Packet Length	4104
Data Field Information			
TBD			

Table 2.3-6: RPC-MAG TM Packet Definition

2.3.3.2.2.5.1 Description of the internal MAG-Packets

The sampling rate of the MAG is 20 Hertz. MAG will use 20 bit data words for science and housekeeping data! Each word has a 4 bit ID placed in front of them. The last two bits of the first ID in each packet is used for identification, all the other ID bits are set to zero! 8 Byte PIU packets will contain 6 Byte science and housekeeping data. Each packet has a leading header byte and a constant trailer byte at the end. One set of data (one sample) will be transmitted in 4 packets!

1. 8 Byte packet:
8 Bit Header + 4Bit ID + 20 Bit OBX + 4 Bit ID + 20 Bit OBY + 8 Bit Trailer

1.Header = 61H 4Bit ID 20Bit OBX 4Bit ID=0 20Bit OBY Trailer Byte=55H

0 1 1 0 0 0 0 1	0 0 0 0	20 Bit OBX	0 0 0 0	20 Bit OBY	0 1 0 1 0 1 0 1

2. 8 Byte packet:
8 Bit Header + 4 Bit ID + 20 Bit OBZ + 4 Bit ID + 20 Bit IBX + 8 Bit Trailer

2.Header = 62H 4Bit D 20Bit OBZ 4Bit ID=0 20Bit IBX Trailer Byte=55H

0 1 1 0 0 0 1 0	0 0 0 1	20 Bit OBZ	0 0 0 0	20 Bit IBX	0 1 0 1 0 1 0 1

3. 8 Byte packet:
8 Bit Header + 4 Bit ID + 20 Bit IBY + 4 Bit ID + 20 Bit IBZ + 8 Bit Trailer

3.Header = 63H 4Bit ID 20Bit IBY 4Bit ID=0 20Bit IBZ Trailer Byte=55H

0 1 1 0 0 0 1 1	0 0 1 0	20 Bit IBY	0 0 0 0	20 Bit IBZ	0 1 0 1 0 1 0 1

4. 8 Byte packet :
8 Bit Header + 4 Bit ID + 20 Bit Housekeeping (16 Values)
+ 4 Bit (XXXX) Housekeeping ID Flag + 1 Bit 4.HK ID Flag
+ 9 Bit zero + 10 Bit Cycle Counter + 8 BitTrailer

4.Header = 20H 4Bit ID 20Bit HK 4Bit HKIF 1Bit HKF 9 Bit Zero 10 Bit Counter Tr. Byte=55H

0 0 1 0 0 0 0 0	0 0 1 1	20 Bit HK	x x x x	F	9 x 0	10 Bit Counter	0 1 0 1 0 1 0 1

Description of the housekeeping flag HKF within the fourth data packet

The voltages of all HK channels (can) differ very much. Thus the voltage swing at the input of the ADC may be as big as the highest allowed difference between minimum and maximum input voltage, which is -2.5 V and +2.5 V. For proper operation, the settling time needed will be greater than 50 ms, the normal sampling time (20 vectors/sec).
This is the reason why we introduced a special housekeeping multiplexer sample counter within the MAGADCIO FPGA. This counter controls the switching of the mux--address after a certain amount of samples. The number of samples per channel can externally be set to 2, 4, 8 or 16, by programming the MPX0 and MPX1 inputs at the FPGA accordingly.
To indicate the last sample per channel, independently of the number of samples set, the housekeeping flag was introduced. The Housekeeping flag, HKF, is bit 37 in the fourth data packet of the RPC 5.0 (MAG) data transmission.
After any change of the housekeeping channel (change of multiplexers address) this flag is cleared ('0'). It is set ('1') when the last sample of the actual channel is taken.

Example:

multiplexer sample counter is set to: 4
(MPX0 = '1', MPX1 = '0')
actual multiplexer address is: 0001/b

Sample No.	Adress(HKIF)	HKF
1	0001	0
2	0001	0
3	0001	0
4	0001	1
1	0010	0
2	0010	0
3	0010	0
4	0010	1
1	0011	0
2	0011	0
3	0011	0
...	...	...

HEADER BYTES

Science Packet 1:

0	1	1	0	0	0	0	1

Science Packet 2:

0	1	1	0	0	0	1	0

Science Packet 3:

0	1	1	0	0	0	1	1

Housekeeping Packet:

0	0	1	0	0	0	0	0

Trailer Byte

0	1	0	1	0	1	0	1

2.3.3.2.3 TC Parameter Definitions

2.3.3.2.3.1 PIU

2.3.3.2.3.2 IES

2.3.3.2.3.3 ICA

2.3.3.2.3.4 LAP

For the LAP TC parameter definition refer to
the **RPC LAP Instrument User Manual** (IRFU-RPC-LAPUM).

2.3.3.2.3.5 MIP

2.3.3.2.3.6 MAG

Housekeeping Channel Assignment:

The 16 analog HK channels are multiplexed according to the following table:

Multiplexer 1840 RH Pin - Cannel - Assignment

Channel	Pin	Address A3 A2 A1 A0	Signal Name	Function	Pin @ J12
0	19	0 0 0 0	TH_A	MAG Temp. Outboard Sensor	--
1	20	0 0 0 1	TH_A1	MAG Temp. Inboard Sensor	--
2	21	0 0 1 0	VA+/2	MAG +5V HK	--
3	22	0 0 1 1	VREF/2	MAG V_REF HK	--
4	23	0 1 0 0	VA--/2	MAG --5V HK	--
5	24	0 1 0 1	XO	MAG X-Komp. Outboard	--
6	25	0 1 1 0	YO	MAG Y-Komp. Outboard	--
7	26	0 1 1 1	ZO	MAG Z-Komp. Outboard	--
8	11	1 0 0 0	PIU TH_HK	PIU TH_HK	19
9	10	1 0 0 1	MIP TH_HK	MIP TH_HK	20
10	9	1 0 1 0	n.c.	n.c.	--
11	8	1 0 1 1		+28V HK	13
12	7	1 1 0 0		-12V HK	12
13	6	1 1 0 1		+12V HK	11
14	5	1 1 1 0		-5V HK	10
15	4	1 1 1 1		+5V HK	9

Table 2.3-7: Housekeeping Channel Assignment

Comment: During the measurement of thermistors TH_A and TH_A1 the FPGA 1280 provides a TH_SW – Signal (high) at Pin 85 CQF 172 (53 PLCC 84). This activates the power for the thermistors.

Conversion of Analog Values for the Thermistors

Outboard (TOB) and Inboard (TIB) temperatures are measured by a PT1000 with a nominal reference voltage of V_{Ref} = 2.5 V. A voltage divider is built up with a R_{ser} = 1 kΩ resistor in series. The nominal temperature dependent analog voltages are given Table 2.3-8. The conversion from the temperature dependent resistance R(T) to the output voltage U_{ADC} is given by

$$U_{ADC} = V_{\mathrm{Re}\,f}\left(\frac{1}{\left(\frac{R_{Ser}}{R(T)}+1\right)}\right)$$

Thermistor Resistance to Voltage Conversion			
T [°C]	R(T)[Ohm]	U_out[V]	U_out[hex]
-200	231.401	0.46979	980DA
-190	269.95	0.53142	9B356
-180	308.386	0.58925	9E2B6
-170	346.73	0.64365	A0F47
-160	385.001	0.69495	A394D
-150	423.219	0.74342	A6102
-140	461.402	0.78931	A869B
-130	499.567	0.83285	AAA45
-120	537.73	0.87423	ACC2A
-110	575.906	0.91361	AEC6E
-100	614.108	0.95116	B0B30
-90	652.351	0.987	B288D
-80	690.646	1.02128	B44A0
-70	729.005	1.05408	B5F80
-60	767.436	1.08552	B7942
-50	805.95	1.11569	B91F8
-40	844.555	1.14466	BA9B4
-30	883.256	1.17251	BC085
-20	922.061	1.19931	BD67A
-10	960.974	1.22512	BEB9F
0	1000	1.25	C0000
10	1039.141	1.27399	C13A7
20	1078.397	1.29715	C26A0
30	1117.769	1.31951	C38F0
40	1157.256	1.34112	C4AA5
50	1196.859	1.36201	C5BC2
60	1236.577	1.38222	C6C50
70	1276.411	1.40178	C7C56
80	1316.36	1.42072	C8BDA
90	1356.425	1.43907	C9AE3
100	1396.605	1.45686	CA975
110	1436.901	1.47411	CB796
120	1477.312	1.49084	CC54C
130	1517.839	1.50708	CD29A
140	1558.481	1.52286	CDF86
150	1599.239	1.53818	CEC13
160	1640.112	1.55307	CF846
170	1681.101	1.56755	D0422
180	1722.205	1.58163	D0FAB
190	1763.425	1.59533	D1AE3
200	1804.76	1.60866	D25D0

Table 2.3-8: Thermistor Resistance to Voltage Conversion

The temperature calibration at Magnetsrode revealed that the temperatures calculated in Table 2.3-8 have to be corrected in the following way:

$$T_{OB}[°C] = T_{OB\text{-}table} + 2.7$$

$$T_{IB}[°C] = T_{IB\text{-}table} + 1.5$$

Conversion of the Digital Values into Magnetic Field Values respectively into Voltages

For magnetic field values (range = -16000nT <> +16000nT):

[Decimal(00000-FFFFF)$_{ADC}$ – 524287.5] * 0.0305176 nT

For voltages (range = -2.5V <> +2.5V):

[Decimal(00000-FFFFF)$_{ADC}$ – 524287.5] * 0.0000047683 V

10 Bit cycle counter (range = 0 – 1023):

Decimal (000 – 3FF)$_{ADC}$

16 Housekeeping channels:

Ch	HKIF	Function	Calculation	Description
0	0000	TH_A (OBTemp)	Voltage	Outboard Sensor Temp.
1	0001	TH_A1 (IBTemp)	Voltage	Inboard Sensor Temp.
2	0010	VA+ / 2	Voltage * 2.1	+5V, ADC Supply/2
3	0011	Vref / 2	Voltage * 2	+2.5V,ADCReference/2
4	0100	VA- / 2	Voltage * 2.1	-5V, ADC Supply/2
5	0101	OBX	Magnetic Field	Outboard X component
6	0110	OBY	Magnetic Field	Outboard Y component
7	0111	OBZ	Magnetic Field	Outboard Z component
8	1000	PIU TH_HK	Voltage	PIU Temperature
9	1001	MIP TH_HK	Voltage	MIP Temperature
10	1010	AGND	Voltage	ADC Analog Ground
11	1011	+28V HK	Voltage	Housekeeping Voltage
12	1100	-12V HK	Voltage	Housekeeping Voltage
13	1101	+12V HK	Voltage	Housekeeping Voltage
14	1110	-5V HK	Voltage	Housekeeping Voltage
15	1111	+5V HK	Voltage	Housekeeping Voltage

Table 2.3-9: Housekeeping Channel Assignment

Display Format								
OBX[nT]	OBY[nT]	OBZ[nT]	IBX[nT]	IBY[nT]	IBZ[nT]	Housekeeping Value		Counter
						CHANNEL	Function	Dimension
						0	TH_A	°C
						1	TH_A1	°C
						2	VA+	V
						3	Vref	V
						4	VA-	V
						5	OBX	[nT]
						6	OBY	[nT]
						7	OBZ	[nT]
						8	TH_PIU	°C
						9	TH_MIP	°C
						A	AGND	V
						B	+28V	V
						C	-12V	V
						D	+12V	V
						E	-5V	V
						F	+5V	V

Table 2.3-10: Data Display Format

2.3.4 DMS Resource Requirements

2.3.4.1 SSMM Utilisation

The tables below give, for each mission phase with different SSMM requirements, the estimated (average) amount of data which will be generated in a 7 day period. Note that some of the mission phases given last less than 7 days, therefore the total data taken will be less than the figures given.

The data space required for context storage is constant over all mission phases. The space required for patches is estimated, and will also be constant assuming that the patches will be held constantly in the SSMM for the largest part of the mission.

Non-Science Telemetry' includes the following RPC-specific data types:

- *Housekeeping Data*
- *Event Report Data*
- *Memory Dumps*

But does not include data provided under the spacecraft mandatory packet services such as Telecommand reception reports.

Mission Phases:	Commissioning, Far Approach, Relay.	**Instrument:**	RPC
Data Type	**Description**	**Volume Mb.**	**Operational Usage**
Non-Science Telemetry	Housekeeping, Event Reports, Memory Dumps	0.34	Active time typically 10%
Science Telemetry	Modes 3 & 4	2.3	"
Context	Context	0.1	At RPC Power-on
Software Patches	PIU and Exp. Patches	0.2	"
Other	TBD	TBD	TBD

Mission Phases:	All Cruise Phases	**Instrument:**	RPC
Data Type	**Description**	**Volume Mb.**	**Operational Usage**
Non-Science Telemetry	Housekeeping, Event Reports, Memory Dumps	0.005	Active time typically <1%
Science Telemetry	Modes 1 & 2	0.17	"
Context	Context	0.1	At RPC Power-on
Software Patches	PIU and Exp. Patches	0.2	"
Other	TBD	TBD	TBD

Mission Phases:	Mars Swing-by, Near Comet Drift	**Instrument:**	RPC
Data Type	**Description**	**Volume Mb.**	**Operational Usage**
Non-Science Telemetry	Housekeeping, Event Reports, Memory Dumps	0.16	Active time typically 5%
Science Telemetry	Mode 5	1.08	"
Context	Context	0.1	At RPC Power-on
Software Patches	PIU and Exp. Patches	0.2	"
Other	TBD	TBD	TBD

Mission Phases:	Earth Swing-by, Asteroid Encounters	**Instrument:**	RPC
Data Type	**Description**	**Volume Mb.**	**Operational Usage**
Non-Science Telemetry	Housekeeping, Event Reports, Memory Dumps	3.4	Active time 100%
Science Telemetry	Modes 5	23.3	"
Context	Context	0.1	At RPC Power-on
Software Patches	PIU and Exp. Patches	0.2	"
Other	TBD	TBD	TBD

Mission Phases:	Close Approach, Global Mapping	**Instrument:**	RPC
Data Type	**Description**	**Volume Mb.**	**Operational Usage**
Non-Science Telemetry	Housekeeping, Event Reports, Memory Dumps	1.8	Active time typically 50%
Science Telemetry	Modes 3 & 7	11.6	“
Context	Context	0.1	At RPC Power-on
Software Patches	PIU and Exp. Patches	0.2	“
Other	TBD	TBD	TBD

Mission Phases:	Transition, Close Observation, Extended Monitoring, Ext. Mission	**Instrument:**	RPC
Data Type	**Description**	**Volume Mb.**	**Operational Usage**
Non-Science Telemetry	Housekeeping, Event Reports, Memory Dumps	1	Active time typically 30%
Science Telemetry	Modes 3 & 4	7	“
Context	Context	0.1	At RPC Power-on
Software Patches	PIU and Exp. Patches	0.2	“
Other	TBD	TBD	TBD

Mission Phases:	SSP Delivery	**Instrument:**	RPC
Data Type	**Description**	**Volume Mb.**	**Operational Usage**
Non-Science Telemetry	Housekeeping, Event Reports, Memory Dumps	3.4	Active time 100%
Science Telemetry	Modes 3 & 4	5.6	“
Context	Context	0.1	At RPC Power-on
Software Patches	PIU and Exp. Patches	0.2	“
Other	TBD	TBD	TBD

Table 2.3-11: RPC Data Volume in Different Misison Phases

2.3.4.2 On-Board Control Procedures

The principal mode of operation of the RPC shall be by the execution of on-board control procedures initiated from the mission timeline. The following summary table shows all the functions required.

Instrument	**RPC**	
OBCP Name	**Function**	**Usage**
PL_OBCP_5_RP.1	PIU Power On	Power On of RPC
PL_OBCP_5_RP.2	PIU Power Off	Power Off of RPC
PL_OBCP_5_RP.3	RPC Mode Control	During any reconfiguration of RPC
PL_OBCP_5_RP.4	LDL no synchronization	When LDL sync event is generated
PL_OBCP_5_RP.5	Parameter Monitor Danger value	When Danger event is generated

Table 2.3-12: RPC OBCPs

These functions will be called with 5 parameters

*mode**PiuMag**, mode**Ies**, mode**Ica**, mode**Lap**, mode**Mip***

to provide the needed flexibility for controlling the five RPC instruments. Each parameter may take one of the following enumerate values:

NoChange	(Do not change experiment configuration)
Off	(Power off experiment)
SID1	
SID2	
SID3	
SID4	
SID5	
SID6	
HV_On	
Maintenance	
Quiet	(turn off science)

The meaning of the values is self explanatory. The default action if it is not defined will be *NoChange*.

During the mode change of one instrument the other ones will be kept in their actual state.

2.3.4.3 On-Board Monitoring

The DMS shall perform periodic and event driven monitoring of the RPC status. Periodic monitoring shall be performed on parameters defined within the RPC Housekeeping Report, delivered every 32 seconds. According to a limit-set for each parameter, the DMS may be required to execute an OBCP for 'make-safe' action. The RPC shall also generate discrete Event Packets which shall trigger the execution of an OBCP.

The able below gives an example of the expected monitoring requirements. The total number of periodic-monitored parameters is estimated to be typically 3 per unit (PIU and experiments, i.e.18 total), and the number of Event Packets requiring on-board action will be typically 2 per unit.

Instrument	**RPC**		
Monitored Entity	**RSDB Mnemonic**	**Monitoring Requirements**	**Action On Error**
Parameters			
RPC +5V	NRPD0310	According to Limit Set in RSDB	RPC Off
RPC –5V	NRPD0317	According to Limit Set in RSDB	RPC Off
RPC +12V	NRPD0320	According to Limit Set in RSDB	RPC Off
RPC –12V	NRPD0327	According to Limit Set in RSDB	RPC Off
RPC +28V	NRPD0330	According to Limit Set in RSDB	RPC Off
PIU Temperature	NRPD0309	According to Limit Set in RSDB (TBD)	RPC Off
Events			
PIU Monitor Danger	YRP0AEC4	Parameter: Unit ID	Run OBCP
MIP Dog barking	YRP0AE81	None	Run OBCP
…		…	…

Table 2.3-13: RPC Monitoring Requirements

2.3.4.4 Information Distribution Requirements

The RPC has a requirement to receive the following information from the DMS:

- *Attitude Data*
  These data shall provide the position (3 coordinates) of the s/c in a convenient celestial coordinate system as well as the orientation of the s/c (2 angles). This information is needed with a temporal resolution of 1 s.
- *Thruster Warnings*
- *Environmental Pressure*

Attitude data shall be required only while the experiment is powered-on. Environment Pressure may be delivered to RPC as either a periodic parameter (approx. once per minute) or as an 'event' when the pressure exceeds a pre-defined value.

Thruster warnings shall be event based.

2.3.4.5 DMS TM Packetisation Requirements

RPC has no discrete telemetry, and no specific requirements on DMS packetisation.

2.4 Budgets

2.4.1 RPC

2.4.2 Experiments

2.4.2.1 PIU

2.4.2.2 IES

2.4.2.3 ICA

2.4.2.4 LAP

2.4.2.5 MIP

2.4.2.5.1 Mass

The MIP EM mass are:

- RPC-4.0 (electronic card): 377 g
- RPC-4.1 (sensor): 265 g
- harness (H08 + H09): 233 g

2.4.2.5.2 Power

During each 32 s sequence (acquisition period) MIP works in two regimes:

- active regime which consumes 1645 mW (secondary)
- stand-by regime (processor idle) which consumes 1035 mW (secondary).

The duration of these two regimes inside a 32 s frame depends on the bit telemetry rate. Thus we have:

- normal or burst rate: 1625 mW (secondary)
- minimum rate: 1190 mW (secondary)

2.4.2.5.2.1 Data Rates (Science and HK)

Table 2.4-1 resumes the data transfer from MIP to PIU or to S/C (CCSDS formatted) every 32 s.

	Science to PIU	HK to PIU	Science + HK to S/C
Min. rate	18 bytes	12 bytes	66 bytes
Normal rate	198 bytes	12 bytes	246 bytes
Burst rate	1200 bytes	12 bytes	1248 bytes

Table 2.4-1: MIP data rates.

2.4.2.5.2.2 Non Operating Heaters

No non-operating heaters are required.

2.4.2.5.2.3 S/C Powered Thermistors

One thermistor (Th1), located in the sensor receiver 1, is monitored by the S/C.

2.4.2.5.2.4 Pyro Lines

No pyro line is used.

2.4.2.6 MAG

2.5 Thermal

2.5.1 Thermal Design

2.5.1.1 Thermal Design Requirements

IES:
Thermal management of IES is accomplished using passive blankets to protect the instrument against contamination cold-trapping early in flight. To monitor IES's temperature, a total of four thermistors are employed. One of these thermistors will need to be monitored by the Rosetta spacecraft. It is preferred to maintain the IES sensor within a temperature range of -20°C to +40°C. IES has no radiator, and therefore has no special requirements for radiator field-of-view. A 0.5 W non-operational heater will be required.

IES Operation Temperature Ranges

Instrument Element	Survival Low	Survival High	Operating Low	Operating High
Sensor Body	-40°C	+60°C	-30°C	+50°C
Preamplifiers	-50°C	+80°C	-30°C	+50°C
Controllers	-50°C	+80°C	-30°C	+50°C

Table 2.5-1: IES Temperature Ranges

ICA:
ICA will be mounted externally on the comet facing platform. The instrument will be collectively controlled. The thermal design requirements are driven by temperature constraints on electronics components and the micro-channel plates.

ICA Operation Temperature Ranges			
Instrument Element	**Operating**	**Non-Operating**	**Switch-On**
Sensor Top	-40 to +55°C	-55 to +70°C	-40 to +50°C
Central Electronics	-40 to +55°C	-55 to +70°C	-40 to +50°C

Table 2.5-2: ICA Temperature Ranges

LAP:
LAP has no special thermal requirements other than those listed below.

LAP Operation Temperature Ranges			
Instrument Element	**Operating**	**Non-Operating**	**Switch-On**
Sensor	-190 to 250°C	-190 to 250°C	-190 to 250°C

Table 2.5-3: LAP Temperature Ranges

MIP:
The sensor contains 2 preamplifiers which cannot be located in the RPC-0 electronics box without an important loss of sensitivity and bandwidth reduction. A wide range of heliocentric distances must be considered for the thermal design (0.9 to 5.2 AU non-operating, 1 to 4.1 AU operating). A model has been done with the help of the ROSETTA Project and ESTEC/SSD, to define the temperature range at the MIP sensor location. The adopted solution is to use electronics and mechanical components which support the wide range of temperatures.

MIP Operation Temperature Ranges			
Instrument Element	**Operating**	**Non-Operating**	**Switch-On**
Sensor	-130 to 100°C	-160 to 100°C	-160 to 100°C

Table 2.5-4: MIP Temperature Ranges

MAG:
The MAG OB/IB sensors will be exposed to a wide temperature range down to about -100°C and up to +100°C. Extreme temperatures of -150°C / +120°C can be tolerated by specific sensor material (Macor).

MAG Operation Temperature Ranges		
Instrument Element	**Operating**	**Non-Operating**
Sensor OB/IB	-150 to 100°C	-150 to 120°C
MAG - PIU Electronics	-20 to 50°C	-50 to 80°C

Table 2.5-5: MAG Temperature Ranges

PIU and Sensor Common Electronics (RPC-0):
The main electronics box for the RPC package shall be located under spacecraft supplied blankets on the payload platform, to which it shall be thermally conducting. The box thermal control will therefore be dictated by the spacecraft environment.

2.5.1.2 Thermal Design Description

IES:
The thermal design of the IES is based on a totally passive thermal maintenance approach. Since the operating temperature range of the instrument is so broad, it presents no special thermal problem. We plan to cover the sensor with thermal blankets except for the entrance aperture. Conductive through the mechanical interface to the spacecraft will provide a large thermal capacitance to the sensor's design. We do not require any radiation surfaces since the instrument draws so little power and can sink heat into the structure of the spacecraft. A small survival heater of approximately 0.5 W will be sufficient to protect the instruments during periods of dormancy.

ICA:
ICA is an collectively controlled instrument. ICA will be covered by electrically conducting MLI except for the aperture opening.

LAP:
Testing will be used to verify that all electronics and mechanical parts will be within their specified temperature ranges. Temperature ranges for the LAP units are specified in sec.2.5.1.

MIP:
The MIP sensor is thermally and electrically insulated from the boom. Due to the weak power dissipated by the sensor electronics, the thermal exchange is always from the spacecraft to the sensor. MIP will require one spacecraft powered thermistor to measure the sensor temperature when PIU is off, and one experiment powered thermistor working when PIU is on. To simplify and to save mass and cables, no redundant thermistor is required.

MAG:
The MAG sensors are located on the MAG/LAP boom in the anti-comet direction (lower boom). For better thermal conductivity the baseplate is made of CFC to get rid of the inner 50 mW power consumption. The calibrated temperature range is –150 to +100 °C.
The sensor assembly is made of MACOR with little mass of copper and sensor core magnetic material and a cover made of LEXAN. The heat capacity can be determined by the mass of the sensor structure (12 g) and its specific heat of 1.47 J/gK and the cover (10 g) with a specific heat of 1.17 J/gK. The power dissipation in the sensor is 50 mW each with small variations. The thermal design of the sensors is dominated by conductive heat loss through the 3 feet (total area is 0.6 cm^2) and a factor 20 higher heat loss through the harness consisting of 16 wires (1.2 mm^2 total, thermal conductivity 380 W/mK, copper), and by the radiative and conductive heat loss to the mounting bracket. An experiment powered thermistor (PT 1000) is built into each sensor with a range from -180 °C to +120 °C. DSS will provide the MLI the sensors RPC-5.1 & RPC-5.2. The harness along the outer boom and the sensor feet (bottom, bracket) should be covered by the S/C provided boom MLI (TBC, assuming an α=0.41 and ,ε=0.5). The maximum and minimum solar radiation input onto the sensors can be estimated to be: 2 W at 0.9 AU and only 0.06 W at 5.2 AU each. The heat capacity for each sensor is 29.3 J/K. The total protruding surface (without bottom) of each sensor is 61cm^2 MLI.

RPC-0:
The RPC Main Electronics Box, being conductively and radiatively coupled to the spacecraft structure, is collectively controlled.

2.5.1.3 Thermal Control Category

Experiment Unit	Category
RPC-0 (PIU)	Collectively Controlled
RPC-1.1 (IES)	Collectively Controlled
RPC-2.1 (ICA)	Collectively Controlled
RPC-3.1 (LAP)	Individually Controlled
RPC-3.2 (LAP)	Individually Controlled
RPC-3.3 (LAP Bracket)	Individually Controlled
RPC-3.4 (LAP Bracket)	Individually Controlled
RPC-4.1 (MIP)	Individually Controlled
RPC-5.1 (MAG)	Individually Controlled
RPC-5.2 (MAG)	Individually Controlled

Table 2.5-6: Thermal Control Category

2.5.2 Thermal Interfaces

2.5.2.1 Conductive Interface

IES:
IES will have a thermally conductive interface to the S/C through the mounting feet.
The conductive interface of the harness is TBD wires of TBD cross-section.

ICA:
ICA will have a thermally conductive interface to the S/C through the mounting feet (4 feet sized 22 mm * 18 mm with a 5.3 mm ∅ mounting hole).
The conductive interface of the harness is 18 wires of 8.6 mm^2 cross-section including shielding.

LAP:
Each LAP sensor will have a thermally conducting interface to the top of the boom through the sensor mounting feet.
The conductive interface of the harness is 1 Triax cable of 1.1 mm^2 (probe) and 10 mm^2 (stub) cross-section.

MIP:
The conductive interface of the MIP RPC-4.1 sensor will be 7 wires of 0.14 mm^2 cross-section each. The bracket is thermally and electrically isolated from the boom.

MAG:
The conductive interface of each MAG sensor will be 16 wires of cross-section 1.2 mm^2 each sensor. The interface to the boom is highly conductive via the CFC base plate.

RPC-0:
The conductive interface of the RPC-0 box is as follows:

- Five mounting feet, total area 21.6 cm^2. The foot thickness is 4mm.
- 52 wires interfacing to the spacecraft via AWG 28.
- TBD wires interfacing to the RPC sensor units.

Conduction through the box feet shall be less than 0.5 Wcm^{-2}. The mating faces of the feet shall not be anodised.

2.5.2.2 Radiative Interface

IES:
See Table 2.5-20 to Table 2.5-26.

ICA:
The bottom face of the ICA box will face the spacecraft platform. This face of the box will be surface treated with iridite (chemical conversion coating). The ICA aperture will not directly face any S/C platform surfaces. The remainder of the ICA instrument will be covered by MLI to reduce radiative coupling. The top lid of the cylinder (ICA +x-axis) is taped with Scotch Tape No. 425 to reduce radiative coupling to space.

LAP:
See Table 2.5-35 to Table 2.5-40.

MIP:
See Table 2.5-41 to Table 2.5-47.

MAG:
See Table 2.5-48 to Table 2.5-55.

RPC-0:
The RPC-0 box will be black anodised Aluminium with an area of 2200 cm^2. See Table 2.5-15 to Table 2.5-19.

2.5.2.3 Heaters

IES:	0.5 W Spacecraft powered non-operational heater.
ICA:	2.2 W Spacecraft powered non-operational heater.
MIP, LAP and MAG:	No heaters.

2.5.2.4 Coatings and Finishes

IES:
The housing exterior surface finish will be a chemical conversion coat (alodine) over aluminium. This is a low emissivity finish. In addition, multilayer insulation blankets will cover all exposed surfaces of IES exclusive of aperture clear field of view

ICA:

ICA surface	Area [m^2]	Coating
Bottom of the electronics box, facing the S/C platform	0.023	Iridite
Aperture opening	0.018	Iridite (TBC)
+ x cylinder end	0.011	Scotch Tape No. 425
All other ICA surfaces	0.11	Electrically conducting MLI

Table 2.5-7: ICA Coating

LAP:
The LAP spheres and stubs will have a TiN surface with a small exposed area of Vespel for electrical insulation. The foot (bracket for sensor interface to boom) will be made of Al with allodine coating. The equilibrium temperature at Earth orbit is expected to be below 129 C.

MAG:
Lexan housing with thermal blankets.

RPC-0:
The RPC-0 surface finish will be Black-Anodised Aluminium.

2.5.2.5 Thermal Interface Control Drawing

IES: ref. Figure 2.5-1.

ICA: ref. Figure 2.5-2.

LAP: ref. Figure 2.5-3.

MIP: ref. Figure 2.5-4.

MAG: ref. Figure 2.5-5.

RPC-0: ref. MICD Figure 2.1-2.

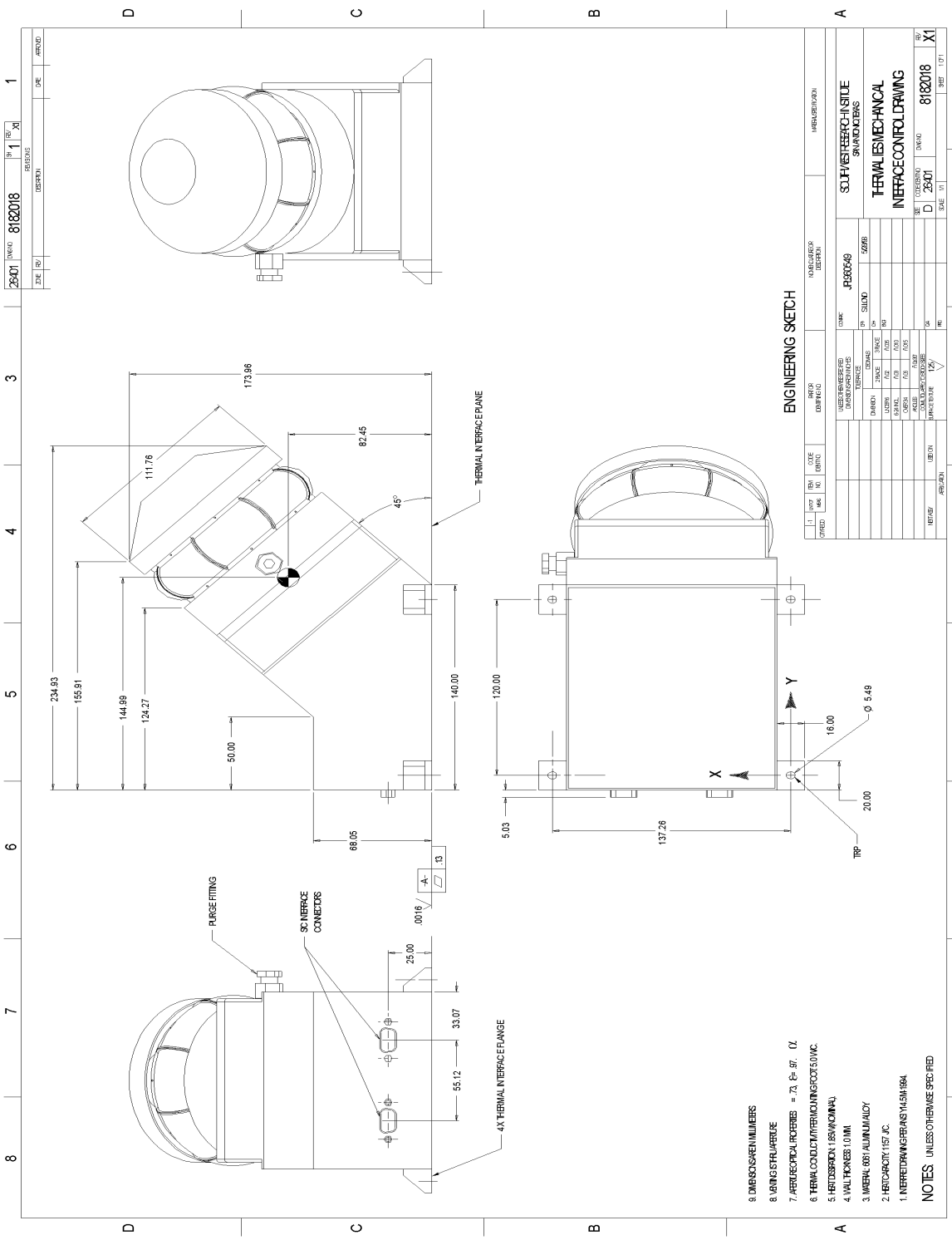


Figure 2.5-1: Thermal Interface Control Drawing for IES

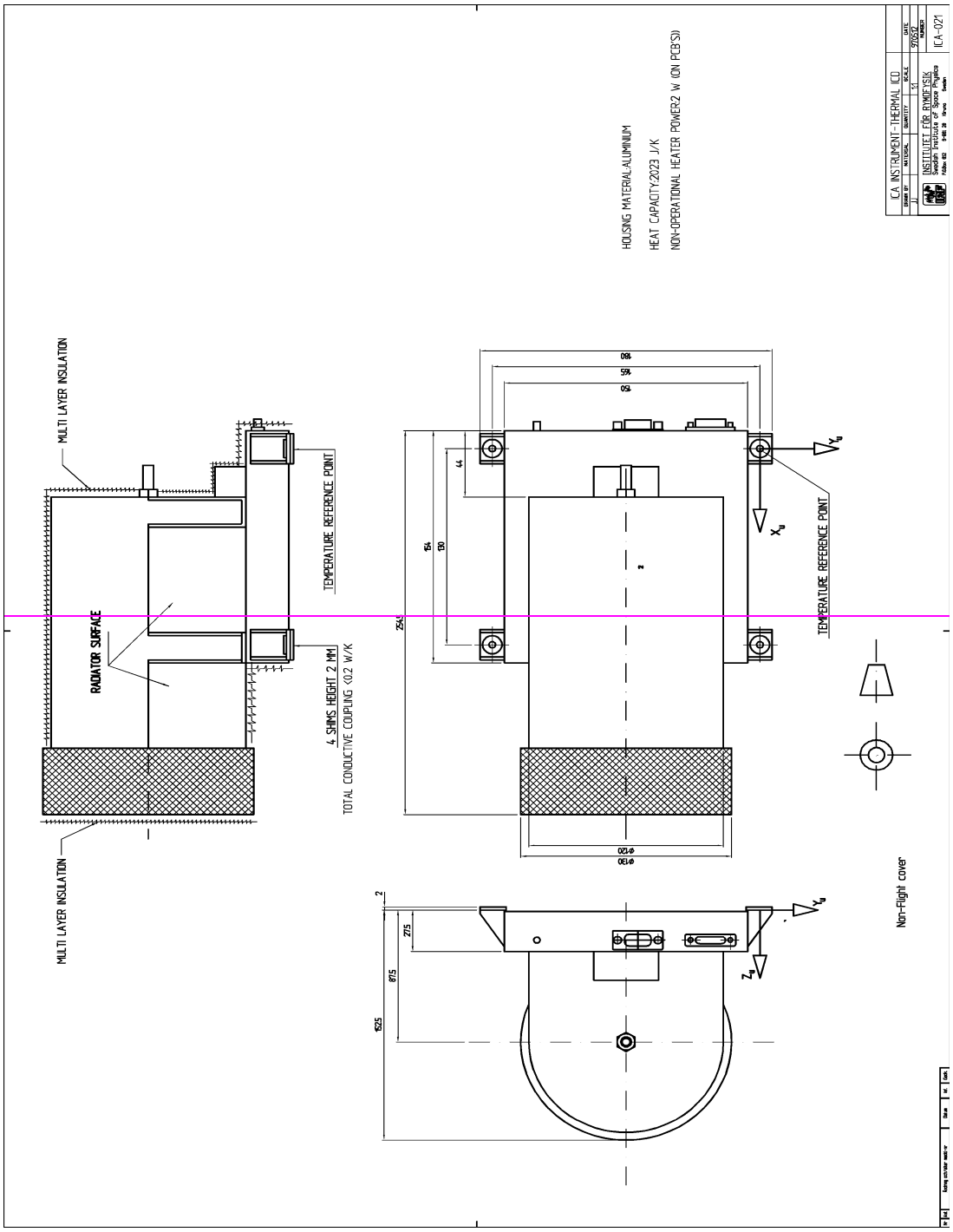


Figure 2.5-2: Thermal Interface Control Drawing for ICA

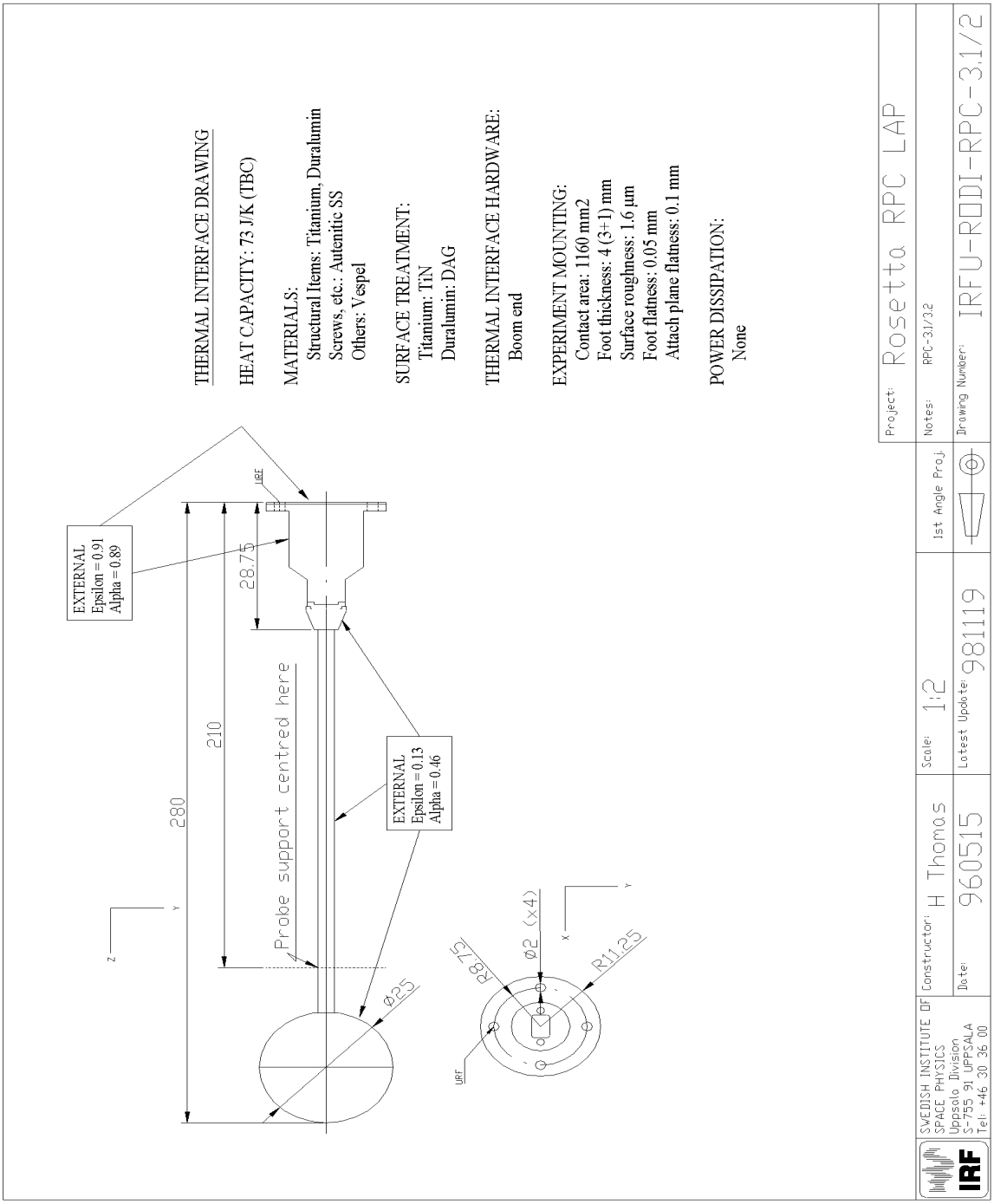


Figure 2.5-3: Thermal Interface Control Drawing for LAP

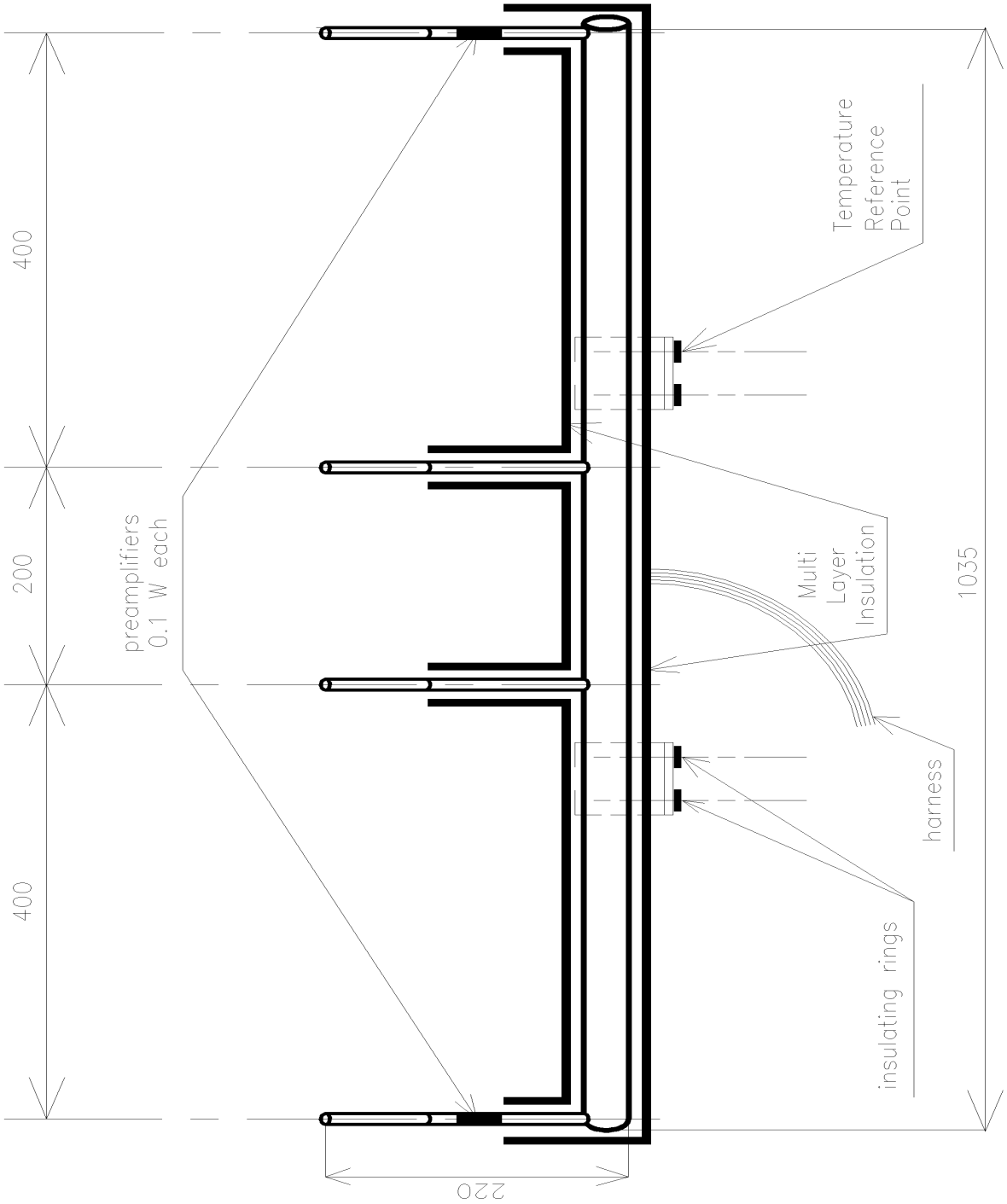


Figure 2.5-4: Thermal Interface Control Drawing for MIP

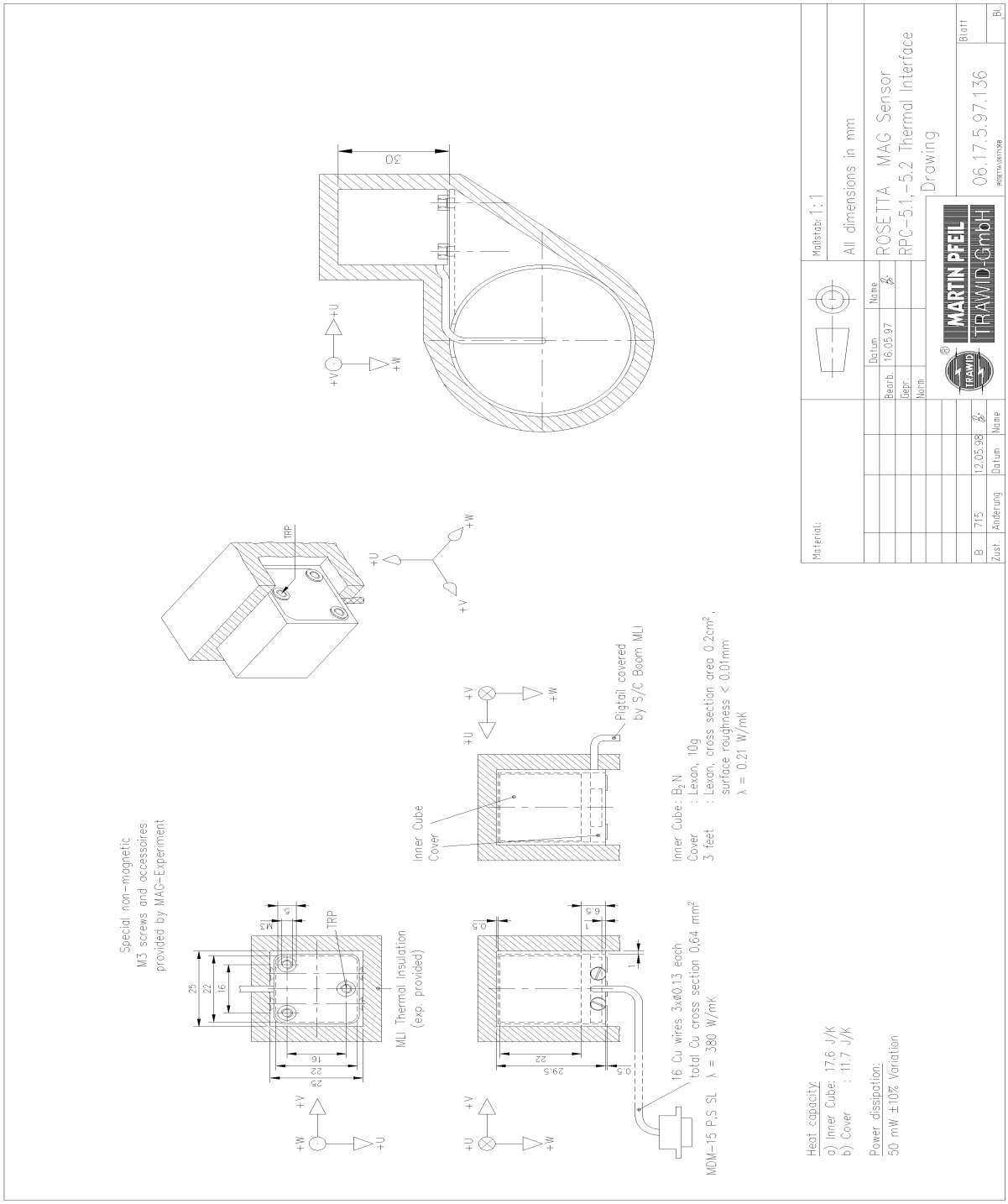


Figure 2.5-5: Thermal Interface Control Drawing for MAG

2.5.3 Temperatures and Thermal Control Budget

2.5.3.1 Temperatures Ranges

Ref. to Table 2.5-8 and Table 2.5-9 (temperatures are referred to the TRP at the interface to the S/C).

Experiment Unit	Operating Temperature		Non-operating Temperature		Switch-on Temperature		Temperature Stability
	Min	max	min	Max	min	max	
RPC-0	-30 ºC	55 ºC	-40 ºC	65 ºC	-30 ºC	50 ºC	TBD
RPC-1.1	-30 ºC	50 ºC	-40 ºC	60 ºC	-30 ºC	50 ºC	TBD
RPC-2.1	-30 ºC	55 ºC	-40 ºC	60 ºC	-40 ºC	60 ºC	TBD
RPC-3.1	-190 ºC	250 ºC	-190 ºC	250 ºC	-190 ºC	250 ºC	TBD
RPC-3.2	-190 ºC	250 ºC	-190 ºC	250 ºC	-190 ºC	250 ºC	TBD
RPC-4.1	-130 ºC	100 ºC	-160 ºC	100 ºC	-160 ºC	100 ºC	N/A
RPC-5.1	-150 ºC	100 ºC	-150 ºC	120 ºC	-150 ºC	100 ºC	TBD
RPC-5.2	-150 ºC	100 ºC	-150 ºC	120 ºC	-150 ºC	100 ºC	TBD

Table 2.5-8: TRP temperature range, space environment

Experiment Unit	Operating Temperature		Non-operating Temperature		Switch-on Temperature		Temperature Stability
	Min	Max	min	Max	min	Max	
RPC-0	-30 ºC	55 ºC	-40 ºC	65 ºC	-30 ºC	50 ºC	TBD
RPC-1.1	-30 ºC	50 ºC	-40 ºC	60 ºC	-30 ºC	50 ºC	TBD
RPC-2.1	-30 ºC	55 ºC	-40 ºC	60 ºC	-40 ºC	60 ºC	TBD
RPC-3.1	-190 ºC	250 ºC	-190 ºC	250 ºC	-190 ºC	250 ºC	TBD
RPC-3.2	-190 ºC	250 ºC	-190 ºC	250 ºC	-190 ºC	250 ºC	TBD
RPC-4.1	-130 ºC	100 ºC	-160 ºC	100 ºC	-160 ºC	100 ºC	N/A
RPC-5.1	-150 ºC	100 ºC	-150 ºC	120 ºC	-150 ºC	100 ºC	TBD
RPC-5.2	-150 ºC	100 ºC	-150 ºC	120 ºC	-150 ºC	100 ºC	TBD

Table 2.5-9: TRP temperature range, ground environment

2.5.3.2 Heater Power Requirements

Experiment Unit	Power (W)
IES ICA	0.5 (TBC) 2.2

Table 2.5-10: RPC Heater Power Requirements

2.5.3.3 Heat Exchange Budget

Phase 1 is at 0.9 AU, Phase 2 is at 5.3 AU;
Mode 1 is ON, Mode 2 is OFF.

Experiment Unit	**Mission Phase 1 Heat Exchange [W]**						**Mission Phase 2 Heat Exchange [W]**					
	Mode 1		**Mode 2**		**Mode 3**		**Mode 1**		**Mode 2**		**Mode 3**	
	cond	**rad**	**Cond**	**rad**	**cond**	**Rad**	**cond**	**rad**	**cond**	**rad**	**cond**	**rad**
RPC-0	7.3**	0	0	0			7.3**	0	0	0		
RPC-1.1												
RPC-2.1 (*)	2.46	0.03	-0.55	-0.01			1.86	0.02	-1.34	-0.02		
RPC-3.1	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A		
RPC-3.2	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A		
RPC-4.1	0.05	TBD	0.05	TBD			0.1	TBD	0.15	TBD		
RPC-5.1	0.05	2	0	2			0.05	0.05	0	0.05		
RPC-5.2	0.05	2	0	2			0.05	0.05	0	0.05		

(*) Mission Phase 1: ICA in full sun and TRP at +50ºC
Mission Phase 2: ICA in shadow and TRP at - 30ºC

(**) Long term average operating heat exchange. Peak dissipation of 7.3 W corresponds to highest power mode for RPC

Table 2.5-11: Heat Exchange

2.5.3.4 Temperature Monitoring

Experiment Unit	S/C Powered Thermistors	Temperature Range	Location
ICA	1	-50 to 90ºC	RPC-2.1
IES	1	-50 to 90ºC	RPC-1.1
LAP	0	N/A	RPC-3.1
LAP	0	N/A	RPC-3.2
MIP	1	-150..+100°C	RPC-4.1
MAG	0	N/A	RPC-5.1
MAG	0	N/A	RPC-5.2
PIU	0	TBD	RPC-4.1

Table 2.5-12: Temperature Sensors (s/c powered thermistors)

Experiment Unit	Experiment Powered Thermistors	Temperature Range	Location
ICA	2	-50 to 70°C	RPC-2.1
IES	3	TBD	RPC-1.1
LAP	0	N/A	RPC-3.1
LAP	0	N/A	RPC-3.2
MIP	1	-150 to +100°C	RPC-4.1
MAG	1	-150 to +150°C	RPC-5.1
MAG	1	-150 to +150°C	RPC-5.2
PIU	1	TBD	RPC-6.0

Table 2.5-13: Temperature Sensors (RPC internal sensors)

2.5.4 Mathematical Model

2.5.4.1 Thermal Mathematical Model

Experiment Unit	No. Of Nodes in Design TMM	No. Of Nodes in InterfaceTMM
RPC-0 (PIU)	1	1
RPC-1.1 (IES)	TBD	5
RPC-2.1 (ICA)	8	8
RPC-3.1 (LAP)	3	3
RPC-3.2 (LAP)	3	3
RPC-3.3 (LAP Bracket)	N/A	N/A
RPC-3.4 (LAP Bracket)	N/A	N/A
RPC-4.1 (MIP)	7	6
RPC-5.1 (MAG)	3	1
RPC-5.2 (MAG)	3	1

Table 2.5-14: TMM Nodes

2.5.4.2 Interface Thermal Mathematical Models

2.5.4.2.1 PIU: RPC-0

(ref. RPC_8 in RO-EST-TN-1021)

Node (-)	Name (-)	Material (-)	Thermal Finish (-)	α_s (-)	ρ_s^d (-)	ρ_s^s (-)	ε_h (-)	ρ_h^d (-)	ρ_h^s (-)
50740	Electronic	Al alloy 6061	ban colinal 3100	-	-	-	0.85	0.15	-

Table 2.5-15: PIU BOL / EOL Surface Properties

Node (-)	Name (-)	Material (-)	A (m^2)	MCp (J/K)	Non-Op. Heater	TRP location
50740	Electronic	Al alloy 6061	0.220	2453.	HT	TH

Table 2.5-16: PIU Node Properties

Node (-)	Op. (°C)	Non-Op. (°C)	Op. Stab. (°C/h)
50740	-20 / +55	-30 / +65	-

Table 2.5-17: PIU TRP Design Temperature Ranges

		BOL		EOL	
Mode (-)	**Node** (-)	**Op. QI** (W)	**Non-Op. QR** (W)	**Op. QI** (W)	**Non-Op. QR** (W)
Min/max	50740	2.3 / 9.4*	S/C	2.3 / 9.4*	S/C

R (50740) = S/C Ω. * Typically 7.3 W

Table 2.5-18: PIU Power Dissipations

Type (-)	Number (-)	Ac (cm^2)	Node (-)	Conductive I/F Node (-)
5 feet - 5*M4	5	5 * 3.36	50740	60740

Table 2.5-19: PIU Interface Contact Conductances

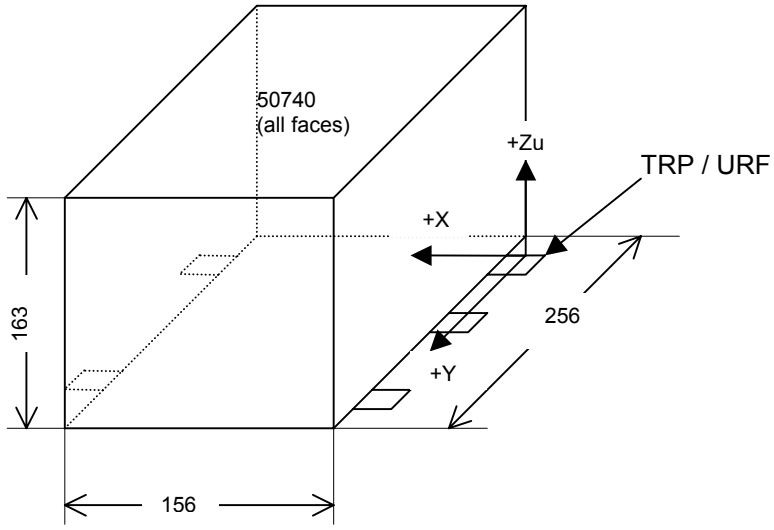


Figure 2.5-6: PIU Electronic Thermal Sketch

2.5.4.2.2 IES: RPC-1.1

(ref. RPC_2 in RO-EST-TN-1021)

Node (-)	Name (-)	Material (-)	Thermal Finish (-)	α_s (-)	ρ_s^d (-)	ρ_s^s (-)	ε_h (-)	ρ_h^d (-)	ρ_h^s (-)
50620	DPU/optics (electron)	Al 6061	alo (*1	0.45	0.55	0.	0.12	0.88	0.
50620	Base	Al 6061	alo (*1	0.45	0.55	0.	0.12	0.88	0.
50620	MLI ring (bottom)	Al 6061	mis buffed Al	0.16	0.84	0.	0.03	0.97	0.
50621	Deflectors	Noryl	mis ebanol C black	0.97	0.03	0.	0.73	0.27	0.
50622	Aperture	Al 6061	mis ebanol C black	0.97	0.03	0.	0.73	0.27	0.
50623	MLI ring (top)	Al 6061	mis buffed Al	0.16	0.84	0.	0.03	0.97	0.
50623	Optics (Ion)	Al 6061	alo (*1	0.45	0.55	0.	0.12	0.88	0.
50623	Top cover	Al 6061	alo (*1	0.45	0.55	0.	0.12	0.88	0.
50624	MLI base	MLI	vka (*2	0.41	0.59	0.	0.72	0.28	0.
50624	MLI DPU	MLI	vka (*2	0.41	0.59	0.	0.72	0.28	0.
50624	MLI optics	MLI	vka (*2	0.41	0.59	0.	0.72	0.28	0.
50624	MLI top	MLI	vka (*2	0.41	0.59	0.	0.72	0.28	0.

(*1 MIL-C-5541 Class 1A
(*2 2 mils VDA kapton ITO

Table 2.5-20: IES BOL / EOL Surface Properties

Node (-)	Name (-)	Material (-)	A (m²)	MCp (J/K)	Non-Op. Heater	TRP location
50620	DPU	Al 6061	0.0463	785.0	HT	TH
50621	Deflector	Noryl	0.0074	45.0	-	-
50622	Aperture	Al 6061	0.0013	30.0	-	-
50623	Optics	Al 6061	0.0238	252.0	-	-
50624	MLI	Kapton	0.0979	45.0	-	-

Table 2.5-21: IES Node Properties

Node (-)	Op. (°C)	Non-Op. (°C)	Op. Stab. (°C/h)
50620	-30 / +50	-40 / +60	-

Table 2.5-22: IES TRP Design Temperature Ranges

		BOL / EOL	
Mode (-)	**Node** (-)	**Op. QI** (W)	**Non-Op. QR** (W)
Science	50620	1.61	0.5 (max)
	50623	0.23	0.5 (max)

R (50620)= S/C Ω

Table 2.5-23: IES Power Dissipations

Node i (-)	**Node j** (-)	**GL** (W/K)
50620	50621	0.0990
50620	50622	3.1530
50621	50623	0.0990
50622	50623	3.1530

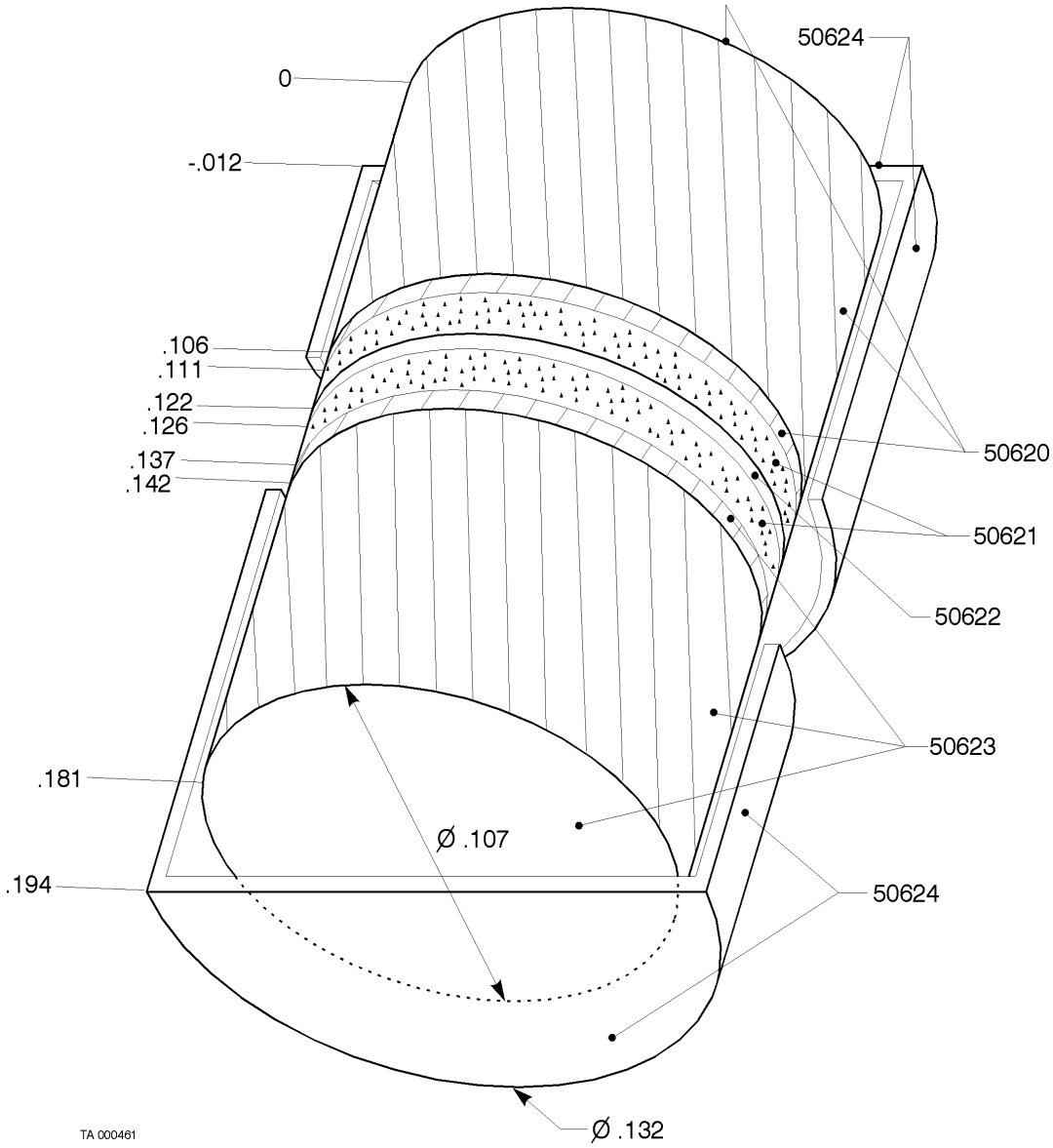
Table 2.5-24: IES Internal Conductive Couplings

Node i (-)	**Node j** (-)	**GR** (m^2)
50620	50624	0.0005
50623	50624	0.0010

Table 2.5-25: IES Internal Radiative Couplings

Type (-)	**Number** (-)	**Ac** (cm^2)	**Node** (-)	**Conductive I/F Node** (-)
4 feet - 4*M5	4	4 * 3.1	50620	60620

Table 2.5-26: IES Interface Contact Conductances



Dimensions in [m]

Note: 50624 does not cover 50620 (MLI Ring bottom) and 50623 (MLI Ring top), hence 50620, 50623 MLI rings are external surfaces/nodes.

Figure 2.5-7: IES Thermal Sketch

2.5.4.2.3 ICA: RPC-2.1

(ref. RPC_1 in RO-EST-TN-1021)

Node (-)	Name (-)	Material (-)	Thermal Finish (-)	α_s (-)	ρ_s^d (-)	ρ_s^s (-)	ε_h (-)	ρ_h^d (-)	ρ_h^s (-)
50600	Sensor dome lid	Al 6062	atp 3M #425	0.20	-	0.80	0.03	-	0.97
50601	Sensor dome lips	Al 6062	bpt Electrodag 501	0.93	0.07	-	0.80	0.20	-
50605	DPU housing (-Z)	Al 6062	bpt Electrodag 501	-	-		0.80	0.20	-
50606	Sensor MLI	MLI	vka 2mils	0.41	0.59	-	0.76	0.24	-
50607	DPU housing MLI	MLI	vka 2mils	0.41	0.59	-	0.76	0.24	-

Table 2.5-27: ICA BOL Surface Properties

Node (-)	Name (-)	Material (-)	Thermal Finish (-)	α_s (-)	ρ_s^d (-)	ρ_s^s (-)	ε_h (-)	ρ_h^d (-)	ρ_h^s (-)
50600	Sensor dome lid	Al 6062	atp 3M #425	0.24	-	0.76	0.03	-	0.97
50601	Sensor dome lips	Al 6062	bpt Electrodag 501	0.93	0.07	-	0.80	0.20	-
50605	DPU housing (-Z)	Al 6062	bpt Electrodag 501	-	-		0.80	0.20	-
50606	Sensor MLI	MLI	vka 2mils	0.65	0.35	-	0.76	0.24	-
50607	DPU housing MLI	MLI	vka 2mils	0.65	0.35	-	0.76	0.24	-

Table 2.5-28: ICA EOL Surface Properties

Node (-)	Name (-)	Material (-)	A (m²)	MCp (J/K)	Non-Op. Heater	TRP location	Op. Heater
50600	Sensor dome lid	Al 6062	0.011	27.7	-	-	-
50601	Sensor dome lips	Al 6062	0.020	220.	-	-	-
50602	Sensor housing	Al 6062	0.015	860.	-	-	-
50603	Sensor electronics	misc	-	280.	-	-	-
50604	DPU electronics	misc	-	310.	-	-	-
50605	DPU housing	Al 6062	0.063	200.	HAT	TRP	-
50606	Sensor MLI	MLI	0.048	3.8	-	-	-
50607	DPU MLI	MLI	0.025	1.9	-	-	-

Table 2.5-29: ICA Node Properties

Node (-)	Op. (°C)	Non-Op. (°C)	Op. Stab. (°C/h)	Switch-On (°C)
50605	-20 / +55	-30 / +60	-	-30/+50

Table 2.5-30: ICA TRP Design Temperature Ranges

		BOL / EOL	
Mode (-)	**Node** (-)	**Op. QI** (W)	**Non-Op. QR** (W)
min/max	50603	2.1 / 2.1	-
	50604	1.8 / 1.8	-
	50605	-	S/C

Table 2.5-31: ICA Power Dissipations

Node i (-)	**Node j** (-)	**GL** (W/K)
50600	50601	0.02
50601	50602	0.02
50602	50605	0.80
50602	50606	0.0048
50603	50602	0.084
50604	50605	0.084
50605	50607	0.0025

Table 2.5-32: ICA Internal Conductive Couplings

Node i (-)	**Node j** (-)	**GR** (m^2)
50600	50601	4.0e-3
50601	50602	2.2e-3
50603	50602	7.5e-3
50604	50605	15.0e-3
50602	50605	0.1e-3

Note: Coupling between DPU housing (50605) and s/c has to be calculated by the s/c with the optical properties taken from Table 2.5-27 and Table 2.5-28.

Table 2.5-33: ICA Internal Radiative Couplings

Type (-)	Number (-)	Ac (cm^2)	Node (-)	Conductive I/F Node (-)
4 feet - 4*M5	4	4 * 3.4	50605	60600

Table 2.5-34: ICA Interface Contact Conductances

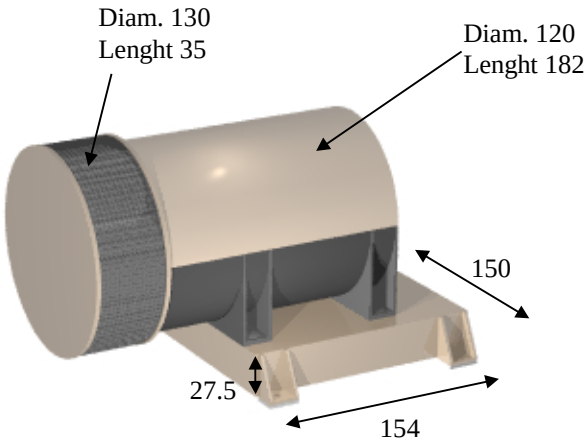


Figure 2.5-8: ICA Main Dimensions

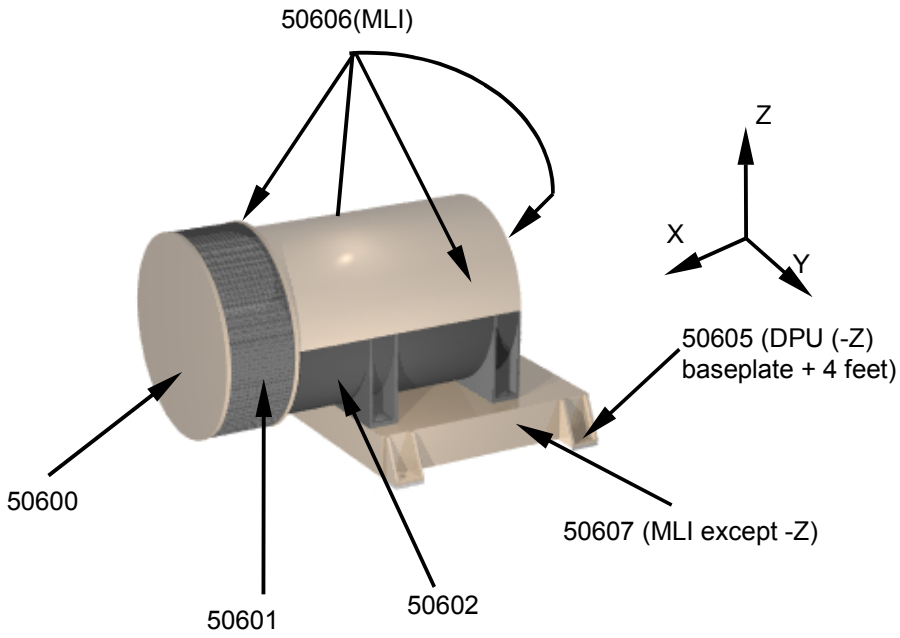


Figure 2.5-9: ICA Thermal Nodes (+Y-side)

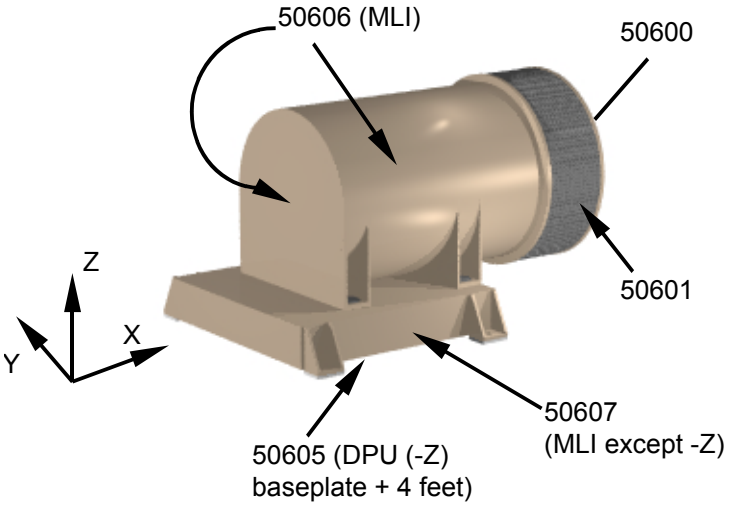


Figure 2.5-10: ICA Thermal Nodes (-Y-side)

2.5.4.2.4 LAP: RPC-3.1 and RPC-3.2

(ref. RPC_3 & 4 in RO-EST-TN-1021)

Node (-)	Name (-)	Material (-)	Thermal Finish (-)	α_s (-)	ρ_s^d (-)	ρ_s^s (-)	ε_h (-)	ρ_h^d (-)	ρ_h^s (-)
50640	LAP1 probe	Ti alloy	Ti Nitride	0.46	0.54	-	0.13	0.87	-
50641	LAP1 stub	Ti alloy	Ti Nitride	0.46	0.54	-	0.13	0.87	-
50642	LAP1 foot	Al alloy	Alodine	TBD	TBD	-	TBD	TBD	-
50660	LAP2 probe	Ti alloy	Ti Nitride	0.46	0.54	-	0.13	0.87	-
50661	LAP2 stub	Ti alloy	Ti Nitride	0.46	0.54	-	0.13	0.87	-
50662	LAP2 foot	Al alloy	Alodine	TBD	TBD	-	TBD	TBD	-

Table 2.5-35: LAP BOL / EOL Surface Properties

Node (-)	Name (-)	Material (-)	A (m²)	mCp (J/K)	Non-Op. Heater	TRP location	Op. Heater
50640	LAP1 probe	Ti alloy	7.9e-3	21.	-	-	-
50641	LAP1 stub	Ti alloy	3.4e-3	11.	-	-	-
50642	LAP1 foot	Al alloy	5.2e-3	41.	-	-	-
50660	LAP2 probe	Ti alloy	7.9e-3	21.	-	-	-
50661	LAP2 stub	Ti alloy	3.4e-3	11.	-	-	-
50662	LAP2 foot	Al alloy	5.2e-3	41.	-	-	-

Table 2.5-36: LAP Node Properties

Unit (-)	Node (-)	Op. (°C)	Non-Op. (°C)	Op. Stab. (°C/h)
LAP1	50640	-190 / +250	-190 / +250	-
LAP2	50660	-190 / +250	-190 / +250	-

Table 2.5-37: LAP TRP Design Temperature Ranges

			BOL / EOL	
Unit (-)	**Mode** (-)	**Node** (-)	**Op. QI** (W)	**Non-Op. QR** (W)
LAP1	no power	50640	0. / 0.	no heater
LAP2	no power	50660	0. / 0.	no heater

Table 2.5-38: LAP Power Dissipations

Unit (-)	Node I (-)	Node j (-)	GL (W/K)
LAP1	50641	50642	0.1
LAP2	50661	50662	0.1

Table 2.5-39: LAP Internal Conductive Couplings

Unit (-)	Type (-)	Number (-)	C (W/K)	Node (-)	Conductive I/F Node (-)
LAP1	flat - 4*M3	1	0.24	50642	S/C (S/C boom)
LAP2	flat - 4*M3	1	0.24	50662	S/C (S/C boom)

Table 2.5-40: LAP Interface Contact Conductances

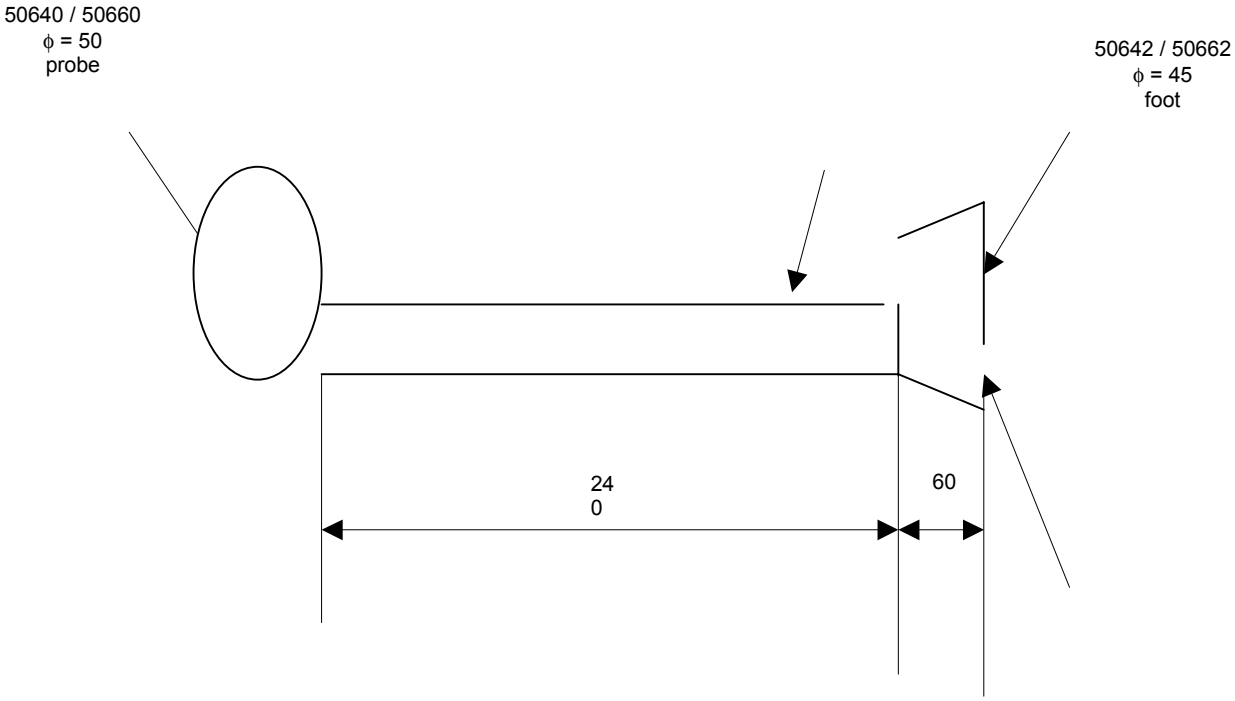


Figure 2.5-11: LAP1 and LAP2 Thermal Sketch

2.5.4.2.5 MIP: RPC-4.1

Node (-)	Name (-)	Material (-)	Thermal Finish (-)	α_s (-)	ρ_s^d (-)	ρ_s^s (-)	ε_h (-)	ρ_h^d (-)	ρ_h^s (-)
50720	Receiving Electrode	Al	Bead blasted	0.5	0.5	0.	0.2	0.8	0.
50721	Receiving Insulated section	Peek		0.64	0.36	0.	0.9	0.1	0.
50722	Transmitting electrode	Al	Bead blasted	0.5	0.5	0.	0.2	0.8	0.
50723	Transmitting insulated section	Peek		0.64	0.36	0.	0.9	0.1	0.
50724	Bar middle Section	CFRP		0.8	0.2	0.	0.8	0.2	0.
-	Bracket	Al	Black anodized	0.86	0.14	0.	0.86	0.14	0.

Table 2.5-41: MIP BOL / EOL Surface Properties

Node (-)	Name (-)	Material (-)	A* (m²)	MCp* (J/K)	Non-Op. Heater	TRP location	Op. Heater
50720	Receiving Electrode	Al	4.78 e-3	5.5	-	-	-
50721	Receiving Insulated section	Peek	2.01 e-3	4.5	-	TH**	-
50722	Transmitting electrode	Al	4.78 e-3	5.5	-	-	-
50723	Transmitting insulated section	Peek	2.01 e-3	4.5	-	-	-
50724	Bar middle section	CFRP	7.5 e-2	60.2	-	-	-
50725	Insulation	Al	N/A	6.4	-	-	-

*Values given for both of the symmetrical parts
**Monitoring thermistor

Table 2.5-42: MIP Node Properties

Unit (-)	Node (-)	Op. (°C)	Non-Op. (°C)	Op. Stab. (°C/h)
MIP	50721	-130 / +100	-	-160

Table 2.5-43: MIP TRP Design Temperature Ranges

			BOL / EOL	
Unit (-)	**Mode** (-)	**Node** (-)	**Op. QI** (W)	**Non-Op. QR** (W)
MIP	ON	2 x 50721	0.1 / 0.1	-

Table 2.5-44: MIP Power Dissipations

Node I (-)	Node j (-)	GL* (W/K)
50720	50721	2.23 e-3 x 2
50721	50724	2.5 e-3 x 2
50722	50723	2.3 e-3 x 2
50723	50724	2.5 e-3 x 2
50724	50725	0.03 x 2

*All these values are to be multiplied by 2 to take into account the symmetrical part of the sensor

Table 2.5-45: MIP Internal Conductive Couplings

Node I (-)	Node j (-)	GR (m^2)
50720	50721	-
50721	50724	-
50722	50723	-
50723	50724	-

Table 2.5-46: MIP Internal Radiative Couplings

Type (-)	Number (-)	C (W/K)	Node (-)	Conductive I/F Node
Insulating plates*	2	0.3	50725	60720 (boom)
Cables**	1	1.05 e-3	50724	50740 (PIU-RPC_8)

* For 2 brackets insulated by PEEK plates

**For 0.5 m equivalent cable length

Table 2.5-47: MIP Interface Contact Conductances

2.5.4.2.6 MAG: RPC-5.1 and RPC-5.2

(ref. RPC_5 & 6 in RO-EST-TN-1021)

Node (-)	Name (-)	Material (-)	Thermal Finish (-)	α_s (-)	ρ_s^d (-)	ρ_s^s (-)	ε_h (-)	ρ_h^d (-)	ρ_h^s (-)
50701	MAG-OB MLI	MLI 2mils	vka	0.42	0.53	-	0.65	0.35	-
50704	MAG-OB inner cube	Boronnitride	-	-	-	-	-	-	-
50705	MAG-OB baseplate	Lexan	as is	-	-	-	0.80	0.20	-
50681	MAG-IB MLI	MLI 2mils	vka	0.42	0.53	-	0.65	0.35	-
50684	MAG-IB inner cube	Boronnitride	-	-	-	-	-	-	-
50685	MAG-IB baseplate	Lexan	as is	-	-	-	0.80	0.20	-

Table 2.5-48: MAG BOL Surface Properties

Node (-)	Name (-)	Material (-)	Thermal Finish (-)	α_s (-)	ρ_s^d (-)	ρ_s^s (-)	ε_h (-)	ρ_h^d (-)	ρ_h^s (-)
50701	MAG-OB MLI	MLI 2mils	Vka	0.62	0.38	-	0.65	0.35	-
50704	MAG-OB inner cube	Boronnitride	-	-	-	-	-	-	-
50705	MAG-OB baseplate	Lexan	as is	-	-	-	0.80	0.20	-
50681	MAG-IB MLI	MLI 2mils	vka	0.62	0.38	-	0.65	0.35	-
50684	MAG-IB inner cube	Boronnitride	-	-	-	-	-	-	-
50685	MAG-IB baseplate	Lexan	as is	-	-	-	0.80	0.20	-

Table 2.5-49: MAG EOL Surface Properties

Node (-)	Name (-)	Material (-)	A (m²)	mCp (J/K)	Non-Op. Heater	TRP location	Op. Heater
50701	MAG-OB MLI	MLI 2mils	6.125e-3	0.	-	-	-
50704	MAG-OB inner cube	Boronnitride	-	29.0	-	TH	-
50705	MAG-OB baseplate	Lexan	1.225e-3	2.3	-	-	-
50681	MAG-IB MLI	MLI 2mils	6.125e-3	0.	-	-	-
50684	MAG-IB inner cube	Boronnitride	-	29.0	-	TH	-
50685	MAG-IB baseplate	Lexan	1.225e-3	2.3	-	-	-

Table 2.5-50: MAG Node Properties

Unit (-)	Node (-)	Op. (°C)	Non-Op. (°C)	Op. Stab. (°C/h)
MAG-OB	50704	-80 / +80	-150 / +120	5.
MAG-IB	50684	-80 / +80	-150 / +120	5.

Table 2.5-51: MAG TRP Design Temperature Ranges

			BOL / EOL	
Unit (-)	Mode (-)	Node (-)	Op. QI (W)	Non-Op. QR (W)
MAG-OB	Deployed	50704	0.05 / 0.05	-
MAG-OB	Stowed	50704	0. / 0.	-
MAG-IB	Deployed	50684	0.05 / 0.05	-
MAG-IB	Stowed	50684	0. / 0.	-

Table 2.5-52: MAG Power Dissipations

Unit (-)	Node I (-)	Node j (-)	GL (W/K)
MAG-OB	50704	50705	7.037e-3
MAB-IB	50684	50685	7.037e-3

Table 2.5-53: MAG Internal Conductive Couplings

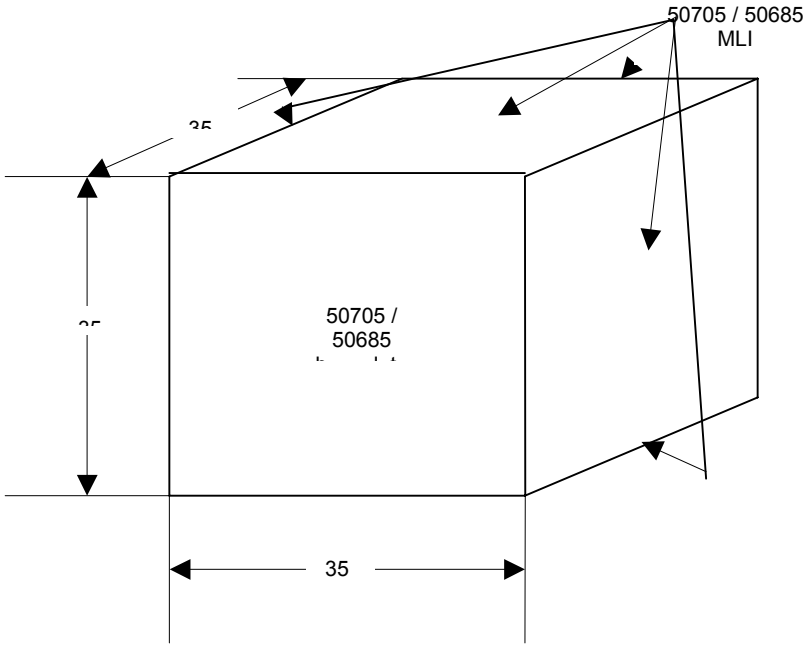
Unit (-)	Node I (-)	Node j (-)	GR (m^2)
MAG-OB	50704	50705	1.608e-3
MAB-IB	50684	50685	1.608e-3

Assuming inner cube side=20 mm

Table 2.5-54: MAG Internal Radiative Couplings

Unit (-)	Type (-)	Number (-)	C (W/K)	Node (-)	Conductive I/F Node (-)
MAG-OB	3 feet - 3*M3	3	0.0001	50705	60700 (S/C bracket)
MAG-OB	cable 16 Cu wires	1	0.002	50705	60700 (S/C bracket)
MAG-IB	3 feet - 3*M3	3	0.0001	50685	60680 (S/C bracket)
MAB-IB	cable 16 Cu wires	1	0.002	50685	60680 (S/C bracket)

Table 2.5-55: MAG: Interface Contact Conductances



Note: The nodes 50705/50685 belong to the MAG OB (outboard) sensor), Whilst 50701/50681 belong to the MAG IB (inboard) sensor

Figure 2.5-12: MAG-OB and MAG-IB Thermal Sketch

3.0 Experiment Operations

3.1 Operating Principles

3.1.1 RPC

The Rosetta mission presents a number of new challenges with regard to payload operations. Due to the complex on-board data-handling systems required to realise the mission objectives, the cost constraints requiring a large degree of on-board autonomy, and the physical difficulties of operating such a mission in deep space, the on-board operations allow much flexibility to maximise the data return. The particular capability which affects payload planning is that the Rosetta spacecraft does not operate in a deterministic and fully pre-planned manner, rather the data gathering and transmission can be commanded at a late stage or even dynamically in real-time on-board the spacecraft. This is necessary due to the uncertain nature of the comet observation possibilities, and the limited bandwidth for telemetry downlink. The central resource which is available to the experiments is the 'Solid State Mass Memory' (SSMM), which contains all payload data stored on-board for later downlink. In order to maximise use of this resource, the project will allocate space in the SSMM to each payload per mission phase. It is up to the payload team to decide how to fill this volume. In the case of RPC, this is no easy task; there are five sensor units producing science and housekeeping data, plus housekeeping data from the PIU. Moreover, any sensor unit may be powered on or off for power budgeting reasons or telemetry saving. When operating, each sensor unit may be generating data at up to six different data rates. It therefore becomes clear that RPC can not be operated as a 'classical' instrument with a limited set of modes. In fact, the possible number of modes for RPC is many thousands, and the associated data rates and power requirements are commensurately large. It is also clear, that given the capabilities of the Rosetta spacecraft, this flexibility can be used to optimise the scientific return from RPC.

There are of course a large number of constraints placed on payload operations, and these include specific constraints for RPC:

- Power availability

RPC can operate from 2 to 18 W, and RPC operations will at times be constrained to an allowed maximum of 11 W.

- Spacecraft pointing

  The orientation of s/c with respect to the sun due to the s/c shadow covering the instruments is only relevant for LAP and MIP (refer to section 3.1.2.4.2.). They require pointing parallel to the plasma flow, plus the IES and the ICA sensors which require to have the plasma flow in their field of view, with the added requirement that IES likes to view the solar wind direction.

- On-board operations constraints,
  such as the availability of OBCP slots (which are dynamic programs run on the spacecraft system which control the operation of the payload – the possibility to execute these is a limited resource);

- Space available in the SSMM.

- Additionally for the magnetometer (MAG) experiment,
  the operation of other payload, subsystems (particularly the reaction wheels) and the Lander must be taken into account, since these are a significant cause of magnetic interference.

  For the fly-by phases of the mission (Mars and Asteroids), the mission timeline will be rather pre-determined and well suited to advance planning. This is also the case for the Earth swing-by, which can be well used by RPC for sensor calibration purposes. RPC also anticipates significant possibilities to take data in the solar wind during the cruise, where meaningful science can be done, and has already requested that the sensors be operated when possible. Although there are times when all the payload must be switched off, it is likely the RPC can be operated during significant parts of the cruise, since the resource hungry imaging instruments will be off. During comet operations however, the situation will be rather more complex, with all the instruments requesting resources. Moreover, the planning during comet operations will be rather dynamic, with the spacecraft and science operations being tailored to the evolution of the cometary activity, and driven by events and observations. Whilst there will be a baseline plan, it is expected that this will be iterated and modified heavily during this phase of the mission, often on a short timescale.

3.1.1.1 Operational Concept

The choice of the mode is due to mission phase, available power and telemetry as well as scientific requirements. Appropriate instrument

commanding is required. The selection and initiation of the modes and sub-modes are under the control of the RPC PI-spokesman after consultation with the RPC team.

A more detailed preferred operational concept is described in section 4.2.1. The sequence of sub-modes during operational phases is TBD and depends on power and telemetry available. In any case OMM 31 is the preferred mode. OMM 36 is designed for the delivery phase, when both the orbiter and the lander magnetometers are required to operate simultaneously.

3.1.1.2 Data Flow

The RPC data will be retrieved from the ESOC DDS system, by a procedure TBD. The data from each instrument are unpacked from the RPC science telemetry by a procedure TBD. On a common RPC level, the data consists of housekeeping data and possible TBD common data products. Each instrument team is responsible for the decoding, calibration, validation and archiving of the data from their instrument. The TBD common RPC data products are based on calibrated data either directly provided by the individual instrument teams or produced by s/w provided by them.

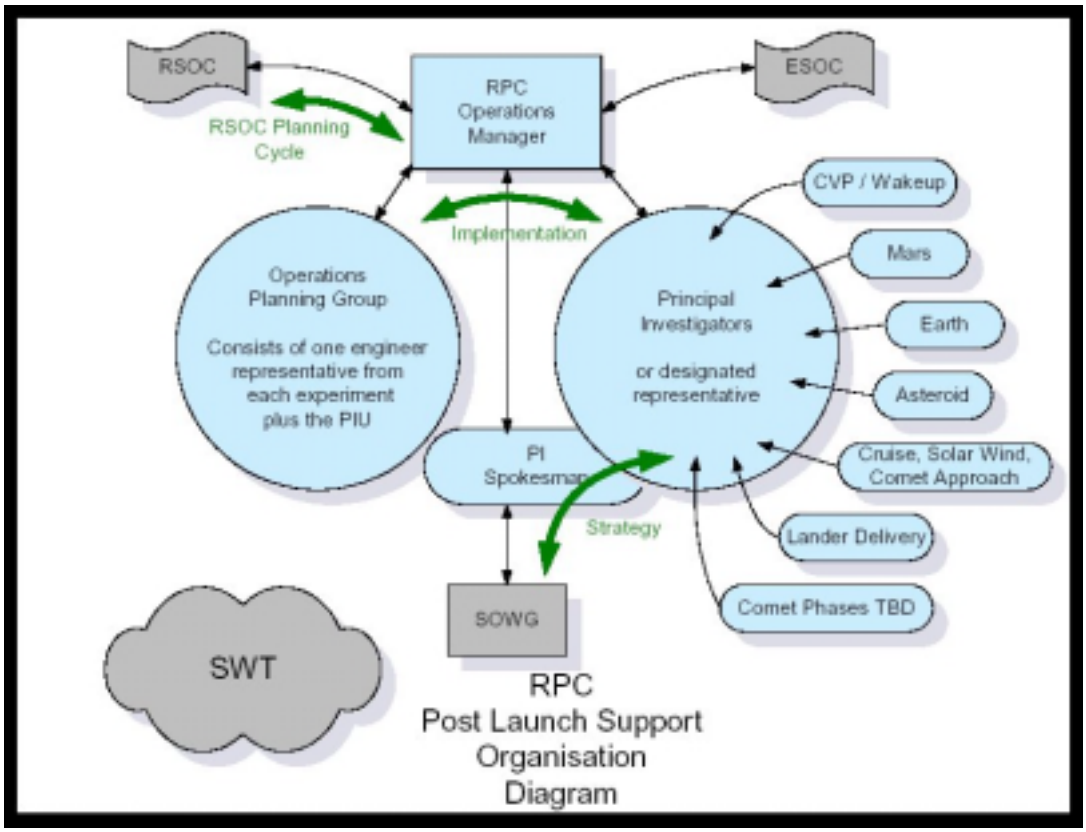


Figure 3.1-1: RPC Post Launch Support Organisation

3.1.2 Experiments

3.1.2.1 PIU

All electrical, telemetry and telecommand interfaces between the RPC group of instruments and the spacecraft are handled by the PIU. This unit distributes secondary power within the group of instruments, it provides the first level of command decoding and it controls the packaging of data for transmission to the spacecraft.

When PIU is powered the nominal mode shall be to have MAG powered on (one MAG ADC is needed for the PIU HK) as well, but not producing any Science. The PIU HK will be automatically produced at power on. Once spacecraft time update has been received PIU will send an “alive” event and the first packet of housekeeping. MAG should then be powered on and only after the ADC’s in MAG have started to send voltage and thermistor values will all of PIU Housekeeping be valid.
In order for any other experiment in the package be powered PIU and MAG must be powered (ref. section 3.1.2.6). Commands to any other

experiment in the package are sent to PIU which distributes these to the correct experiment. PIU collects all Housekeeping and Science from the experiments and passes it on to the Spacecraft.

3.1.2.2 IES

3.1.2.3 ICA

When ICA is powered it will enter it's default telemetry and data reduction mode but high voltages will not be switched on. Full high voltage operation will require 3 commands.
The basic operation consists of stepping through a number of energy levels (32 or 96) for 16 different elevation angles. For each energy level (held for 202.9 milliseconds) a mass-angle matrix (32x16) is produced by the imaging system. Except for some special modes the data are fed through various integration modules to reduce the amount of data, then converted to an 8-bit floating code and finally compressed by a loss less method. All data are stored in a telemetry FIFO for transmission. Due to the compression the experiment formats will vary in length and will therefore be floating in the telemetry packets.

3.1.2.3.1 General command structure

The majority of the ICA commands consist of a single 16-bit command word. Only the two reprogramming commands (ZRP22212, ZRP22213) have one extra word (0xFEED) appended that serves as a security lock.

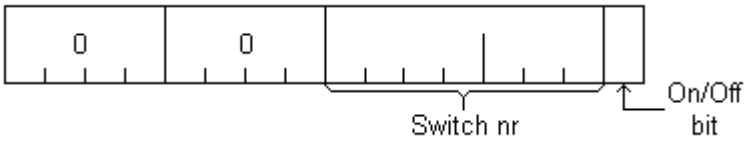
The command word is divided into 4 nibbles as:

The commands are divided into 4 groups defined as:

Class 3: N3 ≠ 0. [N2+N1+N0]=12 bit parameter.
Class 2: N3=0. N2≠0. [N1+N0]=8 bit parameter.
Class 1: N3=N2=0. N1≠0. [N0]=4 bit parameter.

Class 0: N3=N2=N1=0. Part of N0 may be allocated for a < 4-bit parameter.

The switch commands requiring a 1-bit parameter only, are a combination of class 0 and 1 and referred to as class 0. They are laid out as:



where nibble 1 (N1) may be 0,1 or 2. That gives a capacity of 23 switches. Note that switch nr 0 is not used in order to avoid an “all zeros” command. A few other “1-bit” commands also use this form.

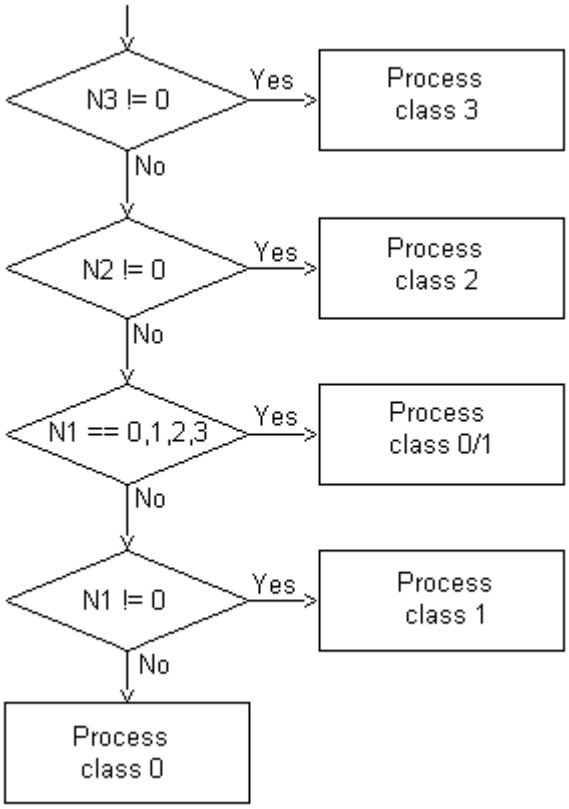
Other commands deviating from the single parameter concept are described under the header of the command in concern.

The commands are of basically two types referred to as Direct or Synchronized. The Direct commands are acted upon immediately on arrival at the experiment, while the Synchronized ones are buffered and processed at the end of the ongoing data acquisition cycle. An example is the Mcp HV reference.
If changed in the middle of an acquisition cycle, the data in that set will be acquired during different conditions and may not represent “true” scientific effects.

Commands always direct is marked by **[D]** and the default synchronized ones with **[S]** below.

The command names refer to the RSDB. Also given is the parameter name if applicable.

Principle command decoding.



Failing commands will generate an event message.

Included in the House Keeping (HK) is a return of the last received 16-bit command word NRPD2320. This implies that if more than one command is received during the time of a HK delivery (for RPC 32 seconds) only the last command seen will be returned. To detect that a new command return is transmitted the parameter NRPD2310 (1 bit) will toggle. When so, parameter NRPD2306 will give the command status: 0=Ok. 1=Parameter out of range. 2=Invalid. 3=Erroneous. Also if a command (not dependent on HK delivery) is not Ok, a command failure event will be transmitted. Apart from this many commands can be directly verified by the returned HK parameters. Commands not directly verifiable in HK can be verified in the science data stream. As a guideline, the HK is primarily devoted to experiment healthy checks. Commands that can not be directly verified in HK are harmless from safety point of view. They may, however, impact on the expected science return.

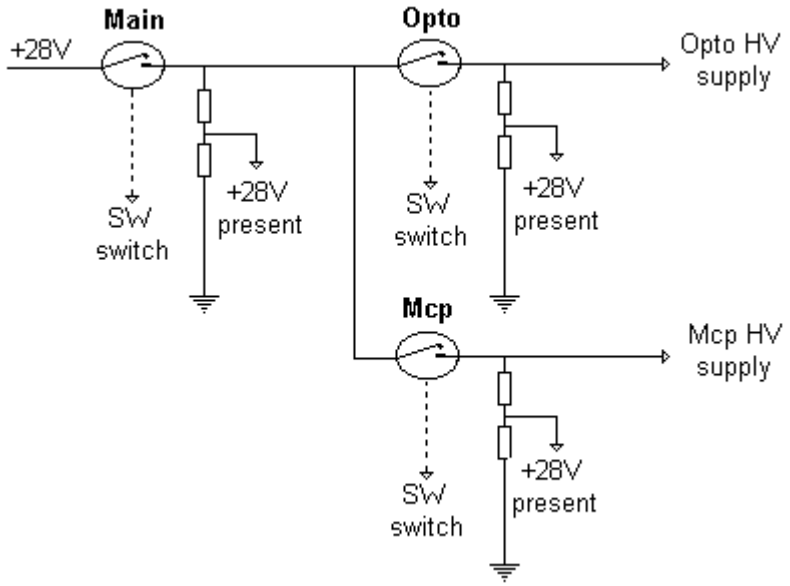
3.1.2.3.2 Command verification

In the individual command description below, commands directly verifiable via HK have the "HK:" tag specified followed by the RSDB tm parameter LNAME and NAME.

In the command descriptions below the **XW:** refers to the ICA EGSE X-window command application window and is not applicable on S/C system level.
It consists of XW: Command group button: *Applicable command buttons.*

3.1.2.3.3 Class 0 (type 220).

The +28V switches statuses.
The +28V switch commands HK statuses are special by the fact that the switch status (On or Off) is the software status only (SW), while the +28V presence after the switch is the true hardware (HW) status. Ideally the switch status should be true hardware as well. But in the selection of one of the two (hard ware restrictions) the +28V present status was chosen as the HV switch status. When it comes to the end, the +28V presence is the important factor. Note that if the Main is off, the +28V will not be present on the Opto or Mcp even if those switches are on. The same is true for all presence status if the HV disable plug is in. See the symbolic drawing below.



ZRP22001: Mcp +28 V switch. [D]

Switches the +28V line to the Mcp high voltage supply ON or OFF. PRPG2001=1 or 0.
HK: Mcp +28V switch (SW) NRPD230F. *(The +28 V line present status (HW) NRPD2317).*
XW: HVswitch: *McpOn McpOff*

ZRP22002: Opto +28 V switch. [D]
Switches the +28V line to the Opto high voltage supply ON or OFF. PRPG2002=1 or 0.
HK: Opto +28V switch (SW) NRPD230E. *(The +28 V line present status (HW) NRPD2316).*
XW: HVswitch: *OptoOn OptoOff*

ZRP22003: Main +28 V switch. [D]
Switches the +28V line to the Mcp and the Opto switches ON or OFF. PRPG2003=1 or 0.
HK: Main +28V switch (SW) NRPD230D. *(The +28 V line present status (HW) NRPD2315).*
XW: HVswitch: *MainOn MainOff*

ZRP22004: Pacc. HV switch. [D]
Sets the Post Acceleration HV reference to zero (OFF) or to its default value (ON). PRPG2004=1 or 0.
HK: Postacc. HV log. switch NRPD230C.
XW: HVswitch: *PaccOn PaccOff*

ZRP22005: Grid LV switch. [D]
Sets the Grid LV reference to zero (OFF) or to its default value (ON). PRPG2005=1 or 0.
HK: Grid LV log. switch NRPD230B.
XW: HVswitch: *GridOn GridOff*

ZRP22006: Entr. HV switch. [D]
Sets the Entrance HV reference to zero (OFF) or to its default value (ON). PRPG2006=1 or 0.
HK: Entrance HV log. switch NRPD230A.
XW: HVswitch: *EntOn EntOff*

ZRP22007: Defl. LV switch. [D]
Sets the Deflection LV reference to zero (OFF) or to its default value (ON). PRPG2007=1 or 0.
HK: Deflection LV log. switch NRPD2309.
XW: HVswitch: *DfLvOn DfLvOff*

ZRP22008: Defl. HV switch. [D]

Sets the Deflection HV reference to zero (OFF) or to its default value (ON). PRPG2008=1 or 0.
HK: Deflection HV log. switch NRPD2308.
XW: HVswitch: *DfHvOn DfHvOff*

ZRP22009: Direct command switch. [D]
Enables or disables the default synchronized commands to direct. (See 2.0) PRPG2009=1 or 0.
HK: Direct command switch NRPD2370.
XW: Various: *DircOn DircOff*

ZRP22010: W/D enable/disable. [D]
Enables or disables the Watch Dog circuitry. PRPG2010=1 or 0.
XW: Various: *WdogOn WdogOff*

ZRP22011: Gas enable/disable. [D]
Enables or disables the ROSINA gas pressure automatic action. PRPG2011=1 or 0.
XW: Various: *GaspOn GaspOff*

ZRP22012: Thruster enable/disable. [D]
Enables or disables the Thruster warning automatic action. PRPG2012=1 or 0.
XW: Keyboard only.

ZRP22014: Compression switch. [S]
Enables or disables the data Compression. PRPG2014=1 or 0.
XW: Various: *CmprOn CmprOff*

ZRP22015: Alt. Pacc. switch. [S]
Enables or disables the automatic Alternating Post acceleration. PRPG2015=1 or 0.
XW: Various: *AltpOn AltpOff*

ZRP22016: Pacc. level. [S]
Sets the Post acceleration level High or Low. PRPG2016=1 or 0.
HK: Pacc. Level NRPD2390.
XW: Various: *PacHigh PacLow*

ZRP22017: Auto red. switch. [S]
Enables or disables the Automatic data reduction scheme changes. PRPG2017=1 or 0.
XW: Various: *AutoOn AutoOff*

ZRP22018: Shadow enable/disable. **[S]** *(Not yet implemented in PIU and RSDB).*
Enables or disables the zero out of imager sectors in shadow. PRPG2018=1 or 0.
XW: Keyboard only

ZRP22025: Next cmd. direct. **[D]**
Flags that the next command should be direct even if of type synchronized. No parameter.
XW: SyncDir

ZRP22026: Deflection step. **[S]**
Sets the Deflection HV to step mode, if fixed. No parameter.
Also see ZRP22201, ZRP22306 and ZRP22307.
XW: HVrefs: *DflStp*

ZRP22027: Entrance step. **[S]**
Sets the Entrance HV to step mode, if fixed. No parameter.
Also see ZRP22202 and ZRP22308.
XW: HVrefs: *EntStp*

ZRP22028: Release V-cal format. [D]
Will release the HV calibration format into the TM data stream. No parameter.
XW: Modes: *Vcal*

ZRP22035: Test WD reset. **[D]**
Will test the Watch Dog circuitry (will cause reboot). No parameter.
XW: Tests: WDrset

ZRP22036: Empty Fifo. **[S]**
Will empty the TM Fifo. No parameter.
XW: Various: *Efifo*

ZRP22037: Flush Fifo. **[D]**
Will flush the TM Fifo if it contains less words than the size of the current SID block size. This is performed by padding with zeros. No parameter.
XW: Various: *Ffifo*

ZRP22038: Boot PROM. **[D]**
Will reboot with the code held in PROM. That is as on power on. No parameter.
XW: Various: *BootPRM*

ZRP22039: Imager test. **[D]**

Will test the Imager memory. Valid in test mode only. No parameter.
XW: Tests: *ImgTst*

ZRP22040: Dummy cmd. [D]
This is a no action command used to test the command link only. No parameter.
XW: Tests: *Dummy*

3.1.2.3.4 Class 1 (type 221).

ZRP22111: Boot EEP incl. context. [D]
Will boot the code from an EEPROM section including the default context. PRPG2111=section (0-15).
XW: Various: *BtEEPcx*

ZRP22112: Test pattern. [S]
Will write a test pattern into the Imager memory. PRPG2112=pattern nr. (0-15).
XW: Tests: *TstPtrn*

ZRP22113: Boot EEP excl. context. [D]
Will boot the code from an EEPROM section excluding the default context. PRPG2113=section (0-15).
XW: Various: *BootEEP*

ZRP22114: RPC internal SID nr. [D]
Sets the internal SID number. PRPG2114=SID nr (0-5).
HK: Sid type NRPD2311.
XW: SidType: *SidMin SidNrm SidBst SidCal SidSpc SidTst (SidIma, IMA only)*

ZRP22115: Default boot section. [D]
Sets the default EEPROM boot section for the “Start command”. PRPG2115=section (0-15).
See ZRP22315.
XW: Settings: *EEPdflt*

3.1.2.3.5 Class 2 (type 222).

ZRP22201: Deflection level. [S]
Sets the Deflection HV level to a fixed table index. PRPG2201=index (0-95).
XW: HVrefs: *DflLev*

ZRP22202: Entrance level. [S]
Sets the Entrance HV level to a fixed index. PRPG2202=index (0-15).
XW: HVrefs: *EntLev*

ZRP22203: SW start level. [S]

Sets the Deflection HV table start index for solar wind modes. PRPG2203=index (0-64).
XW: Settings: *SWlevel*

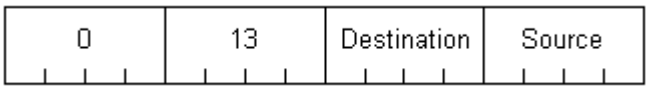
ZRP22204: Gas pressure low. [S]
Sets the ROSINA gas pressure low limit for automatic action. PRPG2204=pressure on the same form as delivered by ROSINA (0xme).
XW: Settings: *GasLow*

ZRP22204: Gas pressure high. [S]
Sets the ROSINA gas pressure high limit for automatic action. PRPG2204=pressure on the same form as delivered by ROSINA (0xme).
XW: Settings: *GasHigh*

ZRP22210: Mode. [S]
Sets the operational mode. PRPG2210=mode (0-39).
HK: Mode NRPD2300.
XW: Modes: *Test Cal1 Cal2 Fake*
Idle Mspo Msis Mexm
Nrm0-7 Har0-7 Exm0-7

ZRP22212: Reprog. all EEP sections. [D]
Will reprogram all EEPROM sections from a given source (0-15=EEP section, 16=PROM). Valid in test and Idle modes only. PRPG2212=source.
XW: Keyboard only.

ZRP22213: Reprog. EEP sections. [D]
Will reprogram an EEPROM section from a given source. The 8-bit parameter is split in 2 as:



PRPD2513=source section (0-15)
PRPD2514=destination section (0-15)
If the source is equal to the destination the PROM memory is used as source.
Valid in test and Idle modes only.
XW: Keyboard only.

3.1.2.3.6 Class 3 (type 223).

ZRP22301: Opto reference. [S]
Sets the Opto HV default reference. PRPG2301=reference (0-7).
HK: Opto HV default reference NRPD23A0.
XW: HVrefs: *OptoRef*

ZRP22302: Mcp reference. [S]
Sets the Mcp HV default reference. PRPG2302=reference (0-15).
HK: Opto HV default reference NRPD23A0.
XW: HVrefs: *McpRef*

ZRP22303: Grid reference. [S]
Sets the Grid LV reference. PRPG2303=reference (0-7).
HK: Grid LV reference NRPD2391.
XW: HVrefs: *GridRef*

ZRP22304: Pacc low ref. [S]
Sets the Post acceleration low level HV reference. PRPG2305=reference (0-7).
HK: Pacc. Low level reference NRPD2371.
XW: HVrefs: *PacLow*

ZRP22305: Pacc high ref. [S]
Sets the Post acceleration high level HV reference. PRPG2306=reference (0-7).
HK: Pacc. Low level reference NRPD2381.
XW: HVrefs: *PacHigh*

ZRP22306: Deflection LV reference. [S]
Sets the Deflection LV reference fixed. PRPG2306=reference (0-4095).
HK: Deflection LV reference NRPD2384.
XW: HVrefs: *DfLVrf*

ZRP22307: Deflection HV reference. [S]
Sets the Deflection HV reference fixed. PRPG2307=reference (0-4095).
HK: Deflection HV reference NRPD2374.
XW: HVrefs: *DfHVrf*

ZRP22308: Entrance ref. [S]
Sets the Entrance HV reference fixed. PRPG2308=reference (0-4095).
HK: Entrance HV reference NRPD2394.
XW: HVrefs: *EntRef*

ZRP22309: Noise reduction. **[S]**
Sets the count threshold for integrations. PRPG2309=threshold (0-4095).
XW: Settings: *NoiseR*

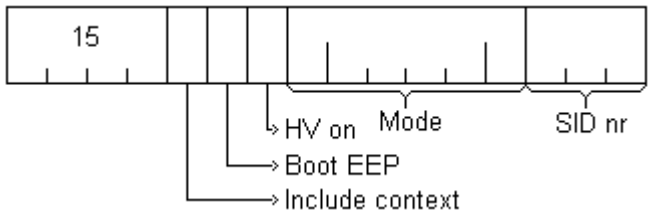
ZRP22310: Fifo low mark. **[S]**
Sets the TM fifo low watermark for auto reduction changes. PRPG2310=watermark (0-4095).
XW: Settings: *Fmin*

ZRP22311: Fifo high mark. **[S]**
Sets the TM fifo high watermark for auto reduction changes. PRPG2311=watermark (0-4095).
XW: Settings: *Fmax*

ZRP22312: Fifo force mark. **[S]**
Sets the TM fifo force watermark for auto reduction changes. PRPG2312=watermark (0-4095).
XW: Settings: *Fforce*

ZRP22313: Fifo clear mark. **[S]**
Sets the TM fifo clear watermark for auto reduction changes. PRPG2313=watermark (0-4095).
XW: Settings: *Fclear*

ZRP22315: Start cmd. **[D]**
This is a combination command that can configure the experiment in one go. The 12-bit parameter is divided into four as:



PRPD2501=SID nr. (0-5)
PRPD2502=Mode. (0-39)
PRPD2503=HV on bit.
PRPD2504=Boot EEP default section bit. (See ZRP22115)
PRPD2505=Boot EEP including default context bit.
XW: Keyboard only.

3.1.2.4 LAP

3.1.2.4.1 General Operation

LAP's measurement philosophy differs from the usual way to operate this kind of instrument. Instead of having a lot of small single effect commands to change the instrument operation we use single commands that change between already predefined settings in the instrument.

These predefined settings are organized in lists or measurement cycles (MCs). There is one MC for each telemetry rate, and every MC is a list of measurement blocks (MBs). A MB is then a complete description of how to set up the instrument i.e. how to get scientific data and what to do with it. The part describing the measurement of scientific data is known as the measurement unit of the MB definition while the processing is described in the processing unit.

Then the instrument is started the MC is cycled indefinitely, starting with the first MB and changing to the next as soon as the first is finished, and finally starting over from the beginning when the last MB is reached. A MC can consist of just repeating one type of MB, or of several different MBs.

There are 8 predefined MBs stored in the instrument PROM memory, and 64 MBs stored in the instrument FLASH memory (in five copies). The MBs in FLASH are programmed using the maintenance service. This provides the flexibility needed for the long lifetime Rosetta mission to a poorly known environment.

There exists commands to change the predefined MCs and MBs. The MB commands however are quite large and should not be used all the time. If a single parameter is to be changed we send up a whole new block with only the single parameter changed.

For further details refer to the LAP Instrument User manual (IRFU-RPC-LAPUM)

3.1.2.4.2 LAP Specific S/C Attitude Requirements

To enable the LAP experiment to make low density ion measurements one or both of the LAP sensors should be occasionally in the shadow of the spacecraft, in sunlight or in solar wind. Therefore, it is necessary to know the s/c position & orientation with respect to the sun and the outlines & position of the s/c shadow zone with respect to the LAP sensors. It might happen, that the s/c has to be turned to generate a shadow zone at the LAP sensors from time to time. The solar wind should come as close as possible towards the $Z_{s/c}$ – axis (Solar wind from $-Z_{s/c}$ – axis is excluded for measurement purposes).

3.1.2.5 MIP

No special care is required to switch on MIP (See MIP/PIU Data Handling Interface, RPC/MIP/RP/126/990253/LPCE, Ed.3, Rev. 2, 18/9/00).
A parameter table (Table 3.1-1) of 6 bytes is required for software initialization and configuration. This table contains :

- internal parameters (transmitter selection, transmission level, ...)
- commands for selection of working modes and telemetry rates.

The size of 6 bytes corresponds to one link-packet between PIU and MIP.

	bit7	bit6	Bit5	bit4	bit3	bit2	bit1	bit0
Byte0	Interference frequency n°1							
Byte1	Interference frequency n°2							
Byte2	Interference frequency n°3							
Byte3	Transmission_level		Transmitter_odd_sweeps		Transmitter_even_sweeps		Extremum_threshold	

Byte4	Sweep_mode_bandwidth		Survey_mode_bandwidth		Ampl_pas	Autoloop
Byte5	Watchdog	Science_sequence_number		LDL_type	Mode	TM_rate

Table 3.1-1: MIP Description of the configuration table.

A default table is stored in a MIP PROM. This default table cannot be updated. It will only be used in case of transmission problems between PIU and MIP.
The default table is : 0x00 00 00 45 02 00;
The type of table 'PIU_update' or 'MIP_default' and its contents are sent back in the CONTROL or TABLE sequence as data. The table 'PIU_update' is sent back in the HK packet type II as execution acknowledgement.

3.1.2.6 MAG

As written in section 3.1.2.1 there is a hard constraint to power on MAG (both sensors) as soon as PIU has sent the first housekeeping packet. The two reasons are the following:

- MAG provides HK for PIU, LAP, and MIP.
- With MAG powered on before the other RPC experiments, there is the possibility to detect any interexperimental interference.

There is only one single command to power MAG on completely with all 7 ADCs starting to convert the two times 3 magnetometer components and the housekeeping channels (voltages and thermistors). Also the sampling rate is fixed to 20 vectors per second. All other handling on the data like packetizing and changing the vector rate is done under control of the PIU, depending on actual downlink capabilities.

3.2 Nominal Operating Plans

3.2.1 Ground Test Plan

3.2.1.1 System Ground I/F & OPS Requirements

3.2.1.1.1 EGSE

3.2.1.1.1.1 Concept

The Electrical Ground Support Equipment (EGSE) is the collective name given to the tools required for electrical testing of all the RPC instruments. The general concept follows the design baseline given in the EID/A section 5.2.1, in which the EGSE can be used in 3 phases.

- **Phase 1 – RPC Experiment Level Testing**
  The EGSE is used to control and monitor RPC instruments via an I/F to the project specified interface simulator (ROSIS). Also the central unit of the EGSE directly controls the stimulator for the LAP experiment.

  For this place there is also an additional EGSE supplied by KFKI, Budapest. This EGSE directly uses its own RTU simulator and therefore, does not require the ROSIS to interface to RPC. This system is for much more portable than the ROSIS and will be used for tests away from IC. See Figure 3.2-4 to Figure 3.2-6.

- **Phase 2 – S/C System Level Testing**
  The EGSE is used to monitor TM sent from the CCS. Commanding is controlled by the CCS using inputs from the RSDB. The LAP stimuli can be controlled by the EGSE or by the CCS.

- **Phase 3 – Flight OPS**
  The EGSE will be used to monitor TM from S/C using the same I/F as previously used with the CCS.

3.2.1.1.1.2 Hardware Description

The EGSE system consists of a RPC EGSE PC, 6 experiment EGSE PCs and the LAP stimulator controller PC. They are connected via a local network (10 base 2, thin Ethernet coax cable) with each PC using BNC connectors. A second network card is used to connect to the ROSIS or CCS. This card connects to the network via twisted-pair cable and an RJ-45 connector.

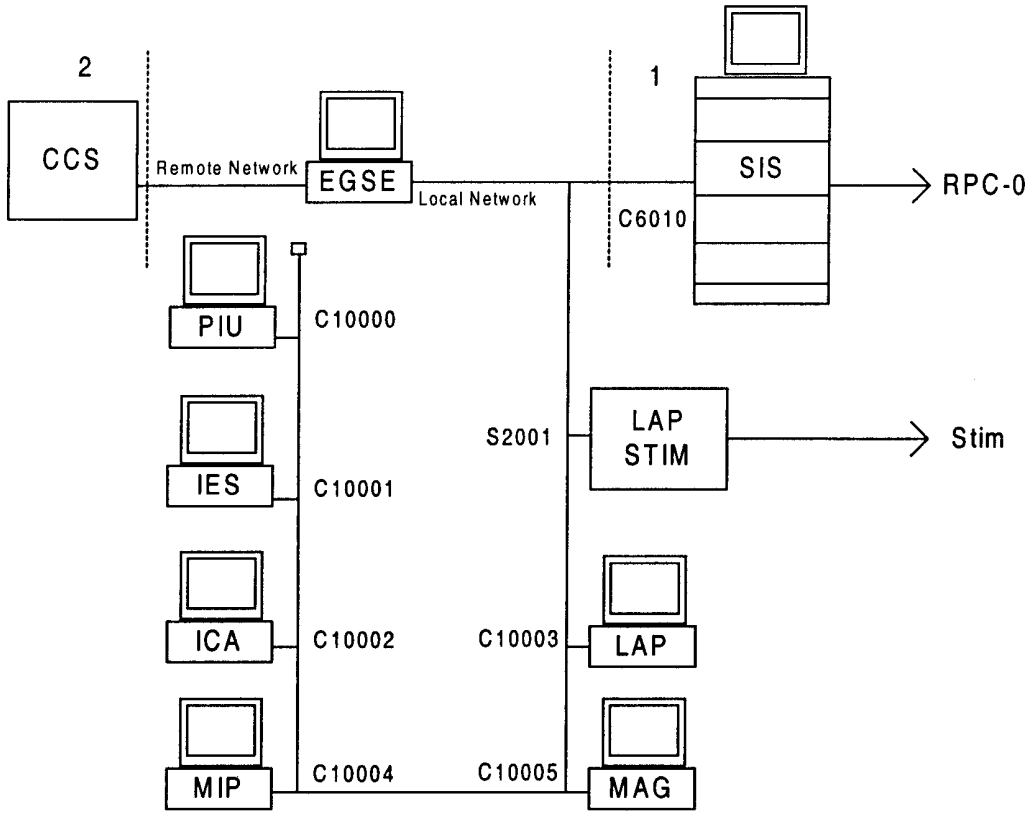


Figure 3.2-1: Overview of the RPC EGSE

In Figure 3.2-1, C represents Client and S represents Server towards the main EGSE and the number following is the TCP/IP port number. This arrangement means the system can run without changing the network settings for various testing facilities (in Phase 1). Also system level tests require only a single change of IP address when the SIS socket is replaced by a socket to the CCS (Phase 2). For certain tests tghe experiment EGSEs can also be connected to the remote network (e.g. tests with the instrument at IC and the experiment team at a remote institute).

There are 2 RPC EGSEs, one to remain with the S/C for system level tests and one for using development with the ROSIS. The system level EGSE is a desktop PC, the development EGSE is a laptop. This portability is useful for RPC testing away from IC.
The RPC EGSE archives all the RPC data as it arrives during a test on the local harddisk. After a test is completed the files can be copied onto CD using the built-in CD writer on the system level EGSE and via a shared CD writer on the network when using the development EGSE.

3.2.1.1.1.3 Software Description

The S/W for the RPC EGSE is written with National Instruments' LabVIEW S/W (V6.0) running under Windows NT/2000. The version of the EGSE S/W at the time of writing is 3.0.

The S/W design is based on a state machine with the subsequent state generally determined by a user action or the type of TM received. Running in parallel with the state machine is a loop that listens on the network sockets for new TCP/IP connections. The network connection to the LAP stimuli rack can be opened at any time from a control on the GUI.
The EGSE S/W carries out the following main functions:

1. To communicate with the ROSIS/CCS using the RPRO and display RPRO level information.
2. To receive TM from the ROSIS/CCS and distribute this in CCSDS format over LAN to the relevant instruments' EGSE.
3. To log the TM to archive files on the local hard drive. The files contain TM in CCSDS packet format (therefore individually time stampede with the on-board time). The files are in binary format and represent a fixed time bin during a test. This bin can be set as part of an archive setup screen that appears after starting the EGSE program.
4. To decode and display TM on the GUI and notify the user of unexpected or erroneous results. The last 30 TM packets received by the EGSE are displayed. Packets that arrived before this can be viewed by 'freezing' the display window and scrolling up the display (up to a maximum of 1000 packets). Events are shown in a separate display with the event ID decoded into text using a look-up table. In addition, the parameters of all the RPC experiments' housekeeping packets are decoded and displayed in a separate section.
5. To allow the user to control the ROSIS and send commands to RPC when testing at experiment level (this can take the form of discrete commands or scripts of up to several hundred commands). The experiment EGSEs are also able to command their own instrument via the network.
6. To control the LAP stimuli and display the command acknowledgements.

An extra utility program called *RPC Telemetry Replay V1.1* is used for displaying archived data and can distribute TM to single or multiple experiment EGSEs over the network. The TM rate can be set to:

1. Single step through packets, one at a time.
2. Replay TM in real time, as if connected to the CCS.
3. Continuous (download data to experiment EGSEs at fastest rate).

The utility program can also filter TM to display/distribute only packets with a certain PID or category.

3.2.1.1.1.4 Compliance

The EGSE I/F to the CCS conforms with the SCOE state table given in section 6.1 of EID/B(AD[1]) and functions correctly with the ROSIS (acting as a CCS simulator to the EGSE).

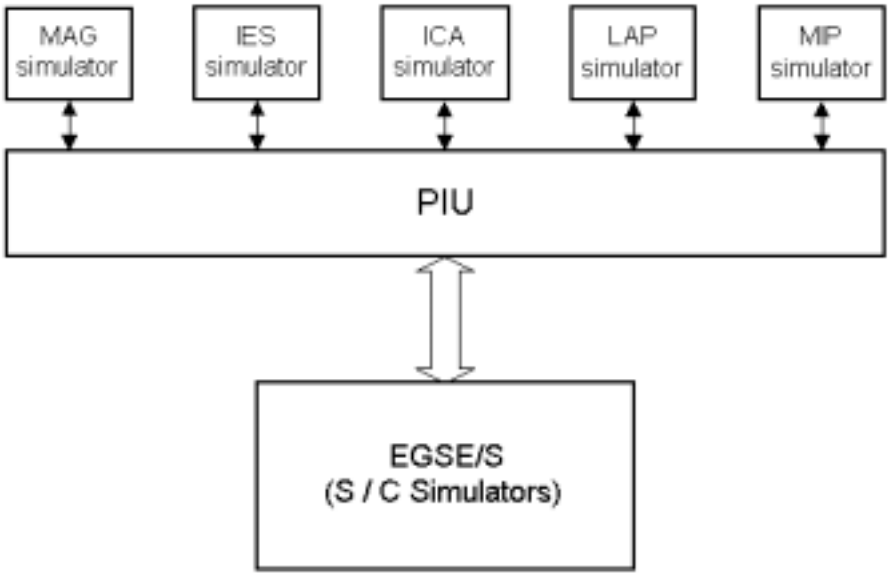


Figure 3.2-2: Autonomous Test of the PIU

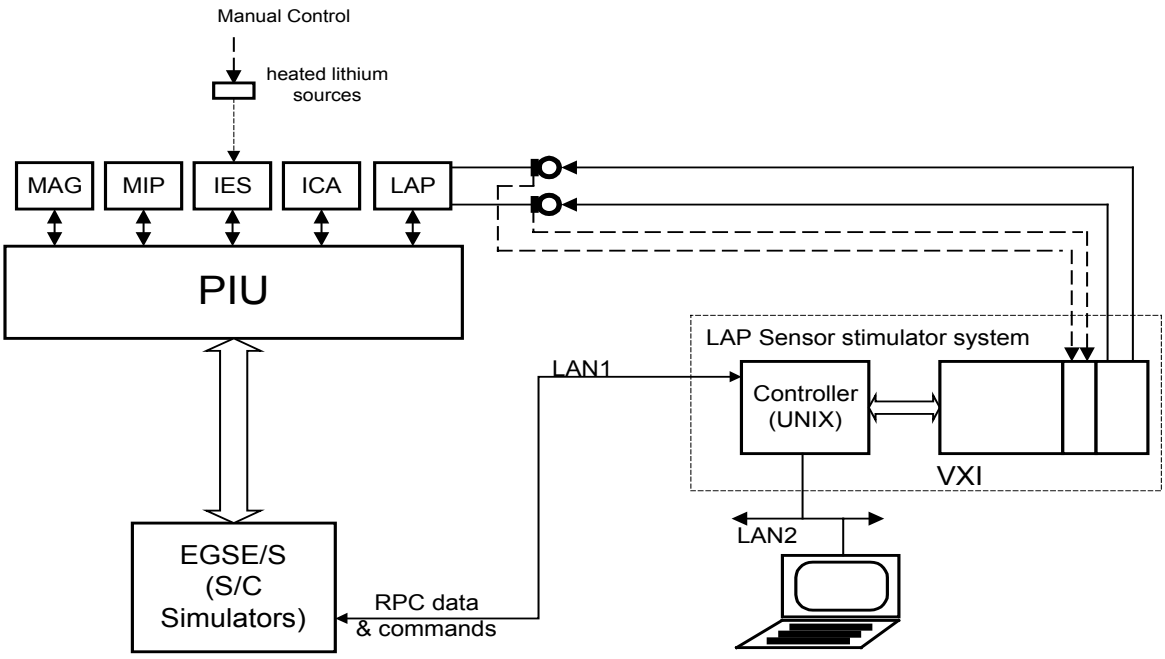


Figure 3.2-3: System Level Test of the Rosetta Plasma Package

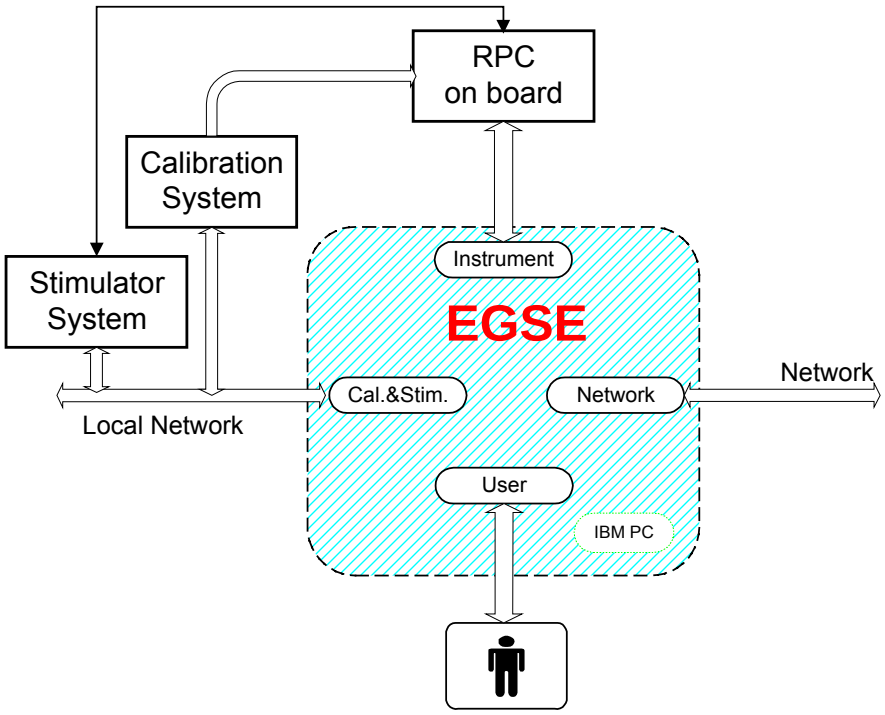


Figure 3.2-4: Logical Interfaces of the KFKI EGSE

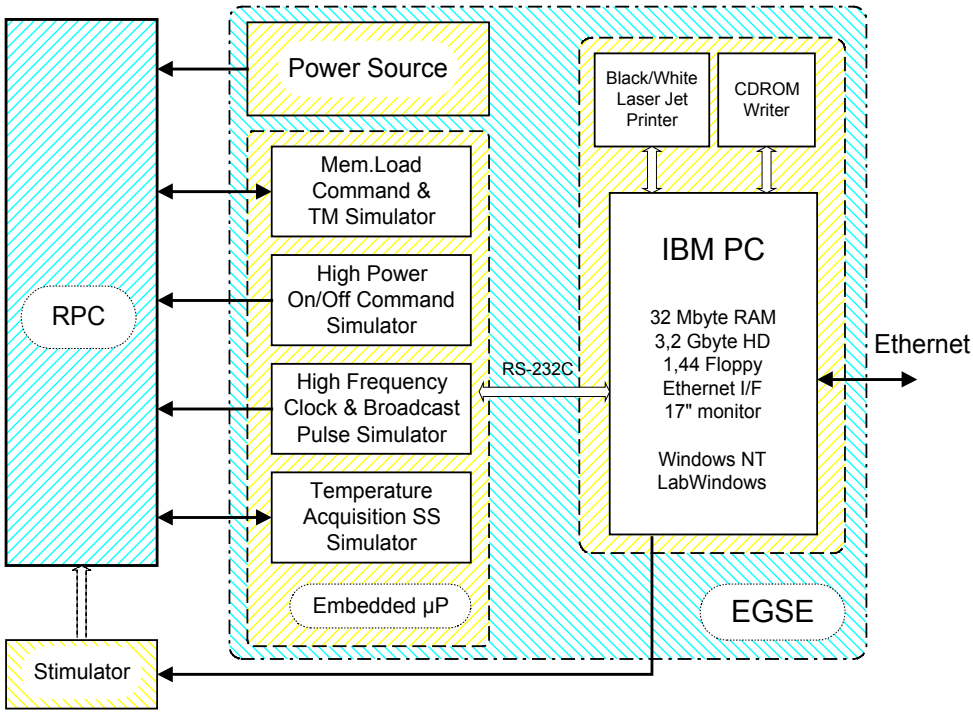


Figure 3.2-5: RPC Experiment Level testing with the KFKI EGSE

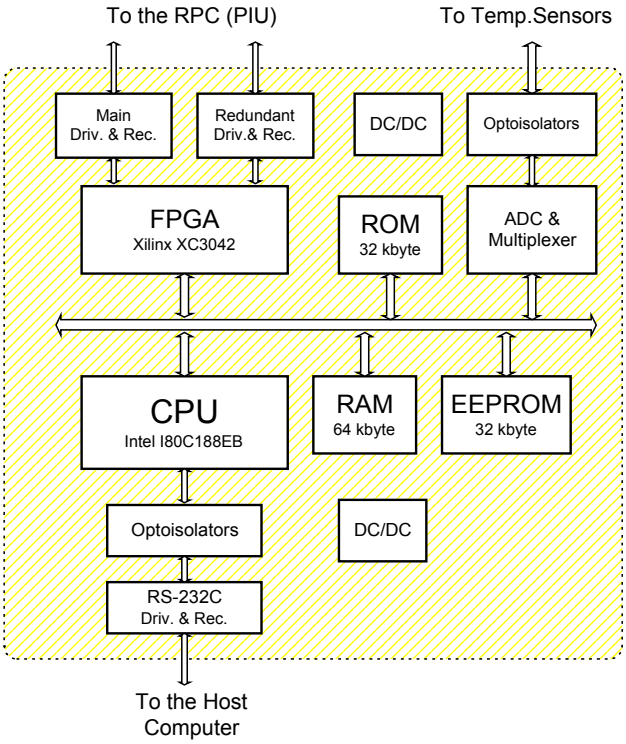


Figure 3.2-6: The KFKI RTU Simulator

3.2.1.1.2 MGSE

Non-flight covers shall be provided for the following sensors:

- IES
- ICA
- LAP
- MIP.

LAP MGSE:

The LAP dedicated MGSE has three features used during different levels of integration and testing.

- Providing stimulus to LAP sensors, via a plasma simulator box or via the protective cover, for testing of current and voltage mode.
- Providing a pass for MIP stimulus from LAP stub to MIP receiver.
- Checking the transmitter pulse to the sensor stubs.

The MGSE will be used for the comprehensive system level tests and for all RPC level testing. It consists in three main items:

1. A VXI rack containing all necessary instruments for stimuli, an interface to the switch box, and a LAN connection to RPC main GSE. This unit is housed in a 19 inch B size rack system with TBD unit height. The power required is not more than can be supplied by a standard power outlet and the weight is TBD less then 100kg.
2. A switch box, size less then 200x250 mm, containing interfaces to stimuli boxes and the VXI rack.
3. Two stimuli boxes, to be mounted on each sensor, containing passive components for stimulus. The size is TBD and limited by the available space on a deployed boom.

The interconnection harness length between VXI rack and switch box is >15m and that between switch box and stimuli box is 3 m. The LAP baseline test set-ups are shown in EID/B Fig 5.2-1.

3.2.1.1.3 Ground OPS Requirements

3.2.1.1.3.1 Specific Experiment System Tests

During experiment's specific system tests, RPC requests that the burst data rate given in section 4.2.1 be available.

IES
As described in the next section, we would like to perform an abbreviated instrument calibration during spacecraft thermal vacuum testing. The attachment of a small heated filament lithium source placed near the instrument can be used as an instrument stimulus. Other tests include the use of an internal pulse to verify counting electronics and built-in-self-test to verify controller and counter operation when the instrument is operating at one atmosphere.

ICA
No instrument specific stimuli will be used during tests. A built-in test generator will check the hardware and the software performance during all tests. All parts of the experiment except the MCPs, the anode system and the pre-amplifiers will be tested by this test generator (since the mentioned system can only be operated under vacuum better than 10^{-6} Torr). The test generator operates in a standard mode of operation, also available in flight configuration for cross-reference and correlation with previous ground tests and operations.

During the Thermal Vacuum test the instrument will be fully operational and operated if the vacuum is better than 10^{-6} Torr. This procedure will be sufficient for functional verification of the ICA instrument on the S/C.

LAP
When the ROSETTA S/C is fully integrated there is a need for a noise environment investigation in an EMC chamber.

MIP

The LDL common mode is an active mode, which consists of:
- Low frequency emission by LAP opposite sensor (LAP 2)
- Reception on MIP sensor.

This mode is very sensitive to the electric environment of the S/C. A life-size verification is requested with the S/C, as soon as possible, to verify the good orientation of the boom and the emission level theoretically obtained by simulation.

The test will require:

- Booms deployed
- No metallic structure close to the MIP or LAP sensors
- EMI cleanliness

The test could be done during the system level EMC test; optionally the test could be performed with flu S/C RF mock-up.

The test consists of a verification of the theoretical emission level on a representative S/C, with booms deployed and solar panels partly deployed (or equivalent electrostatic panels), during EMI tests in an anechoic chamber. A preliminary verification could be done on a dummy S/C (STM or other RF mock-up respectively metallic breadboard). In this case we need MIP and LAP2 sensors installed on their respective booms, linked to the MIP electronic breadboard installed about 3 m far from the S/C. The effect of the solar panel located near the booms (that plays the most important role), should be simulated by metallic panels or gratings (2,2 m wide × 6 m long about) electrically connected to the S/C. The system composed by S/C and panels have to be insulated from ground.

MAG

During the system level magnetic test a calibration verification test will be performed.

3.2.1.1.3.2 Experiment Stimuli

IES
There are two experiment stimuli associated with IES. The first is a built-in pulser that is used to generate pulses downstream of the micro channel plates and in front of the counting electronics. When commanded to use its internal pulser, IES can test all of its counting electronics and controller electronics. The second stimulus is a small heated wire lithium source that we would like to use during spacecraft thermal vacuum testing. Placed directly in front of the instrument, the lithium source will emit a low rate of lithium ions when a current is applied to its filaments. The lithium ions are used to perform an absolute calibration of the instrument, including HVPS, deflection plate assemblies, and micro channel plate detectors.
Setup and Operation TBD.

ICA

No instrument specific stimuli will be used during any tests.

LAP
See EGSE manual.

MIP

MAG
A Mu-metal tube around the sensors (ref. Figure 3.2-7) within will be provided for use during system level tests.
Setup and Operation are given in the ADP of EM and PFM.

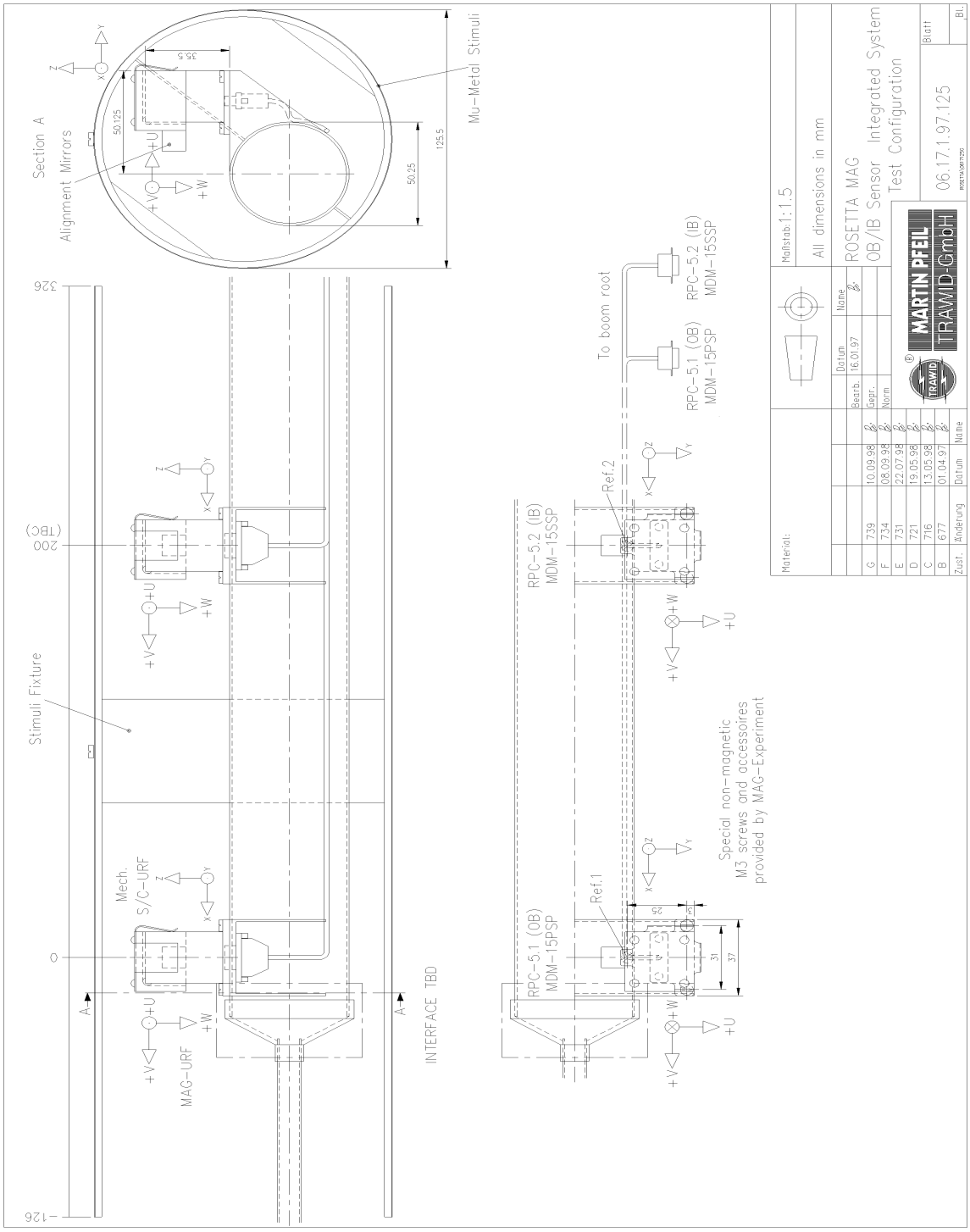


Figure 3.2-7: MAG Accommodation showing alignment mirrors and stimuli within mu-metal tube

3.2.1.1.3.3 Purging Requirements

IES will require a purge of GN_2. Because it is not hermetic, a low rate purge of high purity dry nitrogen is required to keep the micro channel plate detectors clean at a very low flow rate, except when stored in its shipping container or on the launch pad. Aperture covers will be used as remove before flight red tag items. Approx. 1 liter/hour of dry N_2 is suitable (TBC).

ICA will require purge of GN_2. Approx. 1 liter/hour of dry N_2 is suitable.

See also EID/B section 2.2.7.3.

3.2.1.1.3.4 High Voltage Control

IES and ICA will have dedicated high voltage inhibit connectors. It is impossible to enable any of the high voltages for a sensor when a HV safety plug is inserted into the sensor's inhibit connector. It is anticipated that there will be a harness from the central HV inhibit station on the spacecraft to the IES and ICA HV inhibit connectors.

3.2.1.1.3.5 Applicable Constraints

<u>IES and ICA</u>
The only constraint on the operation of IES and ICA is to maintain contamination control in the area around the instrument when it is out of its shipping container. A slow purge of GN_2 must be maintained on the instrument whenever it is not stored in its shipping container. High voltages must not be turned on at pressures above 10^{-6} Torr.

3.2.1.2 Individual Unit Tests

3.2.1.2.1 PIU

3.2.1.2.2 IES

3.2.1.2.3 ICA

3.2.1.2.4 LAP

3.2.1.2.5 MIP

MIP consists of the antenna system and the electronic board integrated into RPC-0. The MIP calibrations are performed first on the sub-systems (antenna, electronics) and then on the integrated instrument.

a) Calibration of the antenna
The preamplifiers integrated into the antenna will be tested/calibrated versus a wide temperature range under responsibility of SSD/ESTEC. Then the following parameters of the antenna will be calibrated in LPCE inside a FARADAY cage:

- measuring the level of the two transmitters in the frequency range 28kHz - 3.5MHz
- measuring the receivers response from 7kHz-3.5MHz
- measuring the whole antenna response in vacuum or atmosphere from 7kHz-3.5MHz
- measuring the noise level

b) Calibration of the MIP electronic board
The calibration of the MIP electronics board is under responsibility of LPCE. The calibrations also will be performed at LPCE .
The following parameters will be calibrated:

- measuring the purity, magnitude and frequencies delivered by the synthesizer
- verifying the frequencies as applied
- measuring the rejection ratio between transmitting and receiving channels (over 75 dB)
- verifying the dynamics and linearity of the instrument
- verifying the correct operation in a temperature range from -20/C to +50/C.

c) Calibration of the integrated instrument
This calibration is also performed at LPCE with the antenna being in a Faraday cage.
The following parameters will be calibrated:

- verifying the sensor response in passive mode:
- verifying the active mode: flat response in vacuum about +20dB from 100kHz to 3.5MHz.

The antenna being installed at the top of a 1.5 m support outside the Faraday cage, away from metallic devices, the following parameters will be calibrated:

- verifying the power consumption
- verifying the status of the instrument with a special control sequence CT
- verifying the frequencies and magnitudes of the passive mode (by catching local radio emissions)
- verifying every MIP mode

d) Calibration of the Long Debye Length (LDL) mode
This calibration first will be done at LPCE simulating the transformer cable and electrode of the LAP experiment.(This cal. cannot be done in a Faraday cage because of large LAP MIP distance).
Before or during RPC integration the long debye length mode will be calibrated using stimuli which act as a double antenna.

e) The response in air between 7 and 140 kHz of the active mode can be only verified during EMC S/C test.

All the individual commands of MIP are tested with a file called *MIP Mode Test* (all the command configurations will be tested and validated at LPCE before delivery). The different modes and rates are checked in this test, first performed at LPCE (See MIP/PIU Data Handling Interface, RPC/MIP/RP/126/990253/LPCE, Ed.3, Rev. 2, 18/9/00).

The full MIP instrument checking has to be done with its sensor; when the MIP sensor is not present, it can be replaced by an external coupling through an attenuator.

The LDL mode checking requires MIP and LAP instruments and sensors. For the test activities performed without booms or with folded booms, the LDL stimulus (capacitive coupling) has to be used. For more information, see the note 'LDL Mode Stimulus, Ed. 3, Rev. 1, 16/05/00', reference RPC/MIP/RP/142/990003/LPCE.

3.2.1.2.6 MAG

For the MAG functional Test refer to section 5.1.2.6.

3.2.1.3 Integrated Consortium Test

3.2.1.4 Consortium Environmental Testing

3.2.1.5 Spacecraft Level Test Plan (at Alenia & ESTEC)

3.2.2 In-orbit Commissioning Plan

For the In-orbit Commissioning Plan refer to the CVP document

RO-RPC-MA-6004 Commissioning Plan

3.2.3 Flight Operations Plan for each Mission Phase

The Flight Operations Plan is defined in the document

RO-RPC-MA-6005 RPC Cruise Phase Plan.

Operating procedures include Commissioning, Switch-on, Switch-off, and Cruise Phase Checkout. Each procedure will be described in terms of 'command sequences' to be executed. 'Command sequences' will be listed separately to 'Procedures'.

It is expected that each mode transition will be triggered by a single command sequence. Any contingency conditions within a mode transition will be handled by the software of the PIU.

Table 3.2-1 gives a preliminary timeline for RPC operations, specified power, data rate and data requirements are still approximate.

Phase	Name	Abbrev.	MET	Start date	Durat.	Sun dist	Earth dist	Typ. Science Downlink rate	Mission phase start event	mission scenarios	Comments	Comet dist	Phase angle	OMM	Active Time [%]	Power [W]	RPC Data Rate [Bit/s]	Data [MByte]
			days	d/m/y	days	AU	AU	kbit/s				km	deg					
	Launch phase	LEOP	0	13. Jan 03	3	1	0	20.57	Launch		Launch window open 12 - 15 Jan, 27 - 31 Jan (tbc)							
	Commissioning	CVP	3	16. Jan 03	99	1	0	20.57	Injection in final orbit					3	10	16.3	392	39.97101
	Cruise phase 1	CR1	102	25. Apr 03	682	1.21	0.22	20.57	end of commissioning					1 , 2	0.1	6.3	3651	25.64602
	Mars flyby	MARS	784	07. Mrz 05	202	1.39	0.69	20.57	Wake up spacecraft to prepare flyby		Phase starts 3 months before MARS Flyby and ends 1 month after. Flyby 25 Aug 2005			5	5	16.3	392	40.7785
	Cruise phase 2	CR2	986	25. Sep 05	34	1.28	0.39	20.57	End of data downlink from Mars flyby					1 , 2	0.1	6.3	3651	1.278541
	Earth flyby 1	EAR1	1020	29. Okt 05	60	1	0	20.57	Wake up spacecraft to prepare flyby		Phase starts 1 month before EARTH Flyby, ends 1 month after. Flyby 28 Nov 2005			5	100	16.3	392	242.2485
	Cruise phase 3	CR3	1080	28. Dez 05	43	0.91	0.15	20.57	End of data downlink from Earth 1 flyby					1 , 2	0.1	6.3	3651	1.616978
AST1	Asteroid 1 approach	AST1A	1123	09. Feb 06	152	1.38	0.43	20.57	Wake up spacecraft to prepare flyby		Phase starts 3 months before Flyby and ends 2 months after. Otawara Flyby on 11 Jul 2006			5	100	16.3	392	613.6963
= "Otawara"	Asteroid 1 post flyby	AST1P	1275	11. Jul 06	60	1.89	1.34	20.57	Start of data downlink after flyby					5	100	16.3	392	242.2485
	Cruise phase 4	CR4	1335	09. Sep 06	415	2.1	2.3	20.57	End of data downlink from AST1 1 flyby					1 , 2	0.1	6.3	3651	15.60572
	Earth flyby 2	EAR2	1750	29. Okt 07	60	1.16	0.19	20.57	Wake up spacecraft to prepare flyby		Phase starts 1 month before EARTH Flyby and ends 1 month after. Flyby 28 Nov 2007			5	100	16.3	392	242.2485
	Cruise phase 5	CR5	1810	28. Dez 07	119	1.05	0.12	20.57	End of data downlink from Earth 2 flyby					1 , 2	0.1	6.3	3651	4.474893
AST2	Asteroid 2 approach	AST2A	1929	25. Apr 08	90	1.99	1.32	20.57	Wake up spacecraft to prepare flyby		Phase starts 3 months before Flyby and ends 2 months after. Siwa Flyby on 23/7/08			5	100	16.3	392	363.3728
= "Siwa"	Asteroid 2 post flyby	AST2P	2019	24. Jul 08	60	2.72	3.06	12.85	Start of data downlink after flyby					5	100	16.3	392	242.2485
	Cruise phase 6	CR6	2079	22. Sep 08	190	3.16	4.06	6.43	End of data downlink from AST2 flyby					1 , 2	0.1	6.3	3651	7.144787
	Rendezvous 1	RV1	2269	31. Mrz 09	150	4.7					Deep space manoeuver on 29 Jun 2009			3	5	16.3	392	30.28107
	Cruise phase 7	CR7	2419	28. Aug 09	763									1 , 2	0.1	6.3	3651	28.69196
	Rendezvous 2	RV2	3182	30. Sep 11	90	4.7		4.28			Deep space manoever 29 Nov 2011	1.4 Mio	140	3	5	16.3	392	18.16864
	Comet Drift Phase	DRIF	3272	29. Dez 11	112	4.508	5.344	4.28						3	5	16.3	392	22.60986
	Far approach	FAT	3384	19. Apr 12	120	3.95	3.94	5.14	Comet acquisition point (CAP) reached			120000	45	3	10	16.3	392	48.44971
APPR	Close approach	CAT	3504	17. Aug 12	3	3.32	2.4	10.28	Approach transition point (ATP) reached	landmarks det, determine comet rotation, inertia tensor		176		3	50	16.3	392	6.056213
	Transition to global mapping	TGM	3507	20. Aug 12	24	3.29	2.44	12.85	Orbit insertion point (OIP) reached	map gravitational field		35	45	3	30	16.3	392	29.06982
	Nucleus map./close enc.	NMCO	3531	13. Sep 12	18	3.16	2.56	12.85	Mapping orbit insertion point (MOIP) reached	mapping (MAP), close encounters (CLOSE)	Duration of this phase will in practice be driven by the Comet Mapping requirements.	25	0	3 , 4	50	16.3	392	36.33728
	Lander delivery and relay	SSP	3549	01. Okt 12	12						SSP delivery requested at 3.0 AU, precise date is tbd, Nom. start of mission at 3.25 AU			36	100	2.8	120	14.83154
	Comet low activity phase	LOW	3561	13. Okt 12	52			20.57	start of low activity	initial science (INSCI)				3 , 4	30	16.3	392	62.98462
	Comet activity: moderate increase	MINC	3613	04. Dez 12	87	2.6	3.1	12.85	start of moderate activity increase	nominal science, timesharing				3 , 4	30	16.3	392	105.3781
ESCO	Comet activity: sharp increase	SINC	3700	01. Mrz 13	35	1.9	2.9	12.85	start of sharp activity increase	nominal science, timesharing				3 , 4	30	16.3	392	42.39349
	Comet activity: high activity	HIGH	3735	05. Apr 13	52	1.6	2.6	17.14	start of high activity	nominal science, timesharing				3 , 4	30	16.3	392	62.98462
	Near perihelion phase	PERI	3787	27. Mai 13	43	1.2	2.1	20.57	distance to sun 1.2 AU reached	nominal science, timesharing				3 , 4	30	16.3	392	52.08344
	Extended mission	EXT	3830	09. Jul 13	300	1.06	2	20.57	perihelion reached					3 , 4	30	16.3	392	363.3728

NOTE 1: APPR = Approach phase
NOTE 2: ESCO = Escort phase
NOTE 3: "Cometary phase" is colloquial useage and means APPR + ESCO, "Wirtanen" is used by DSS and means the same

Table 3.2-1: Preliminary Timeline with Data budgets

NOTE: Mission phases used in this table are based on the ROSETTA Mission_Phases_1_4 from December 17th , 2001 (Detlef Koschny, ESA-ESTEC). The specified modes of operation are given together with the percentage of time, operation is requested to be active in the specified mission phase. The specified power is maximum primary power requested. Internal mode switching will allow to delimited the average power required down to the allocated value. Data rates, and data requirements are still approximate; detailed numbers can only be given, if the detailed sub-mode sequences etc. have been defined.

Dates		Duration			
From	To	(Days)	ESA acronym	Description	Activities
16/01/03	25/04/03	99	CVP	Commissioning & Verification Phase. Daily Contact with spacecraft	High activity period. RPC is operational for the whole period on a best effort basis by ESOC. Telemetry Analysis & Operation verification will be required daily. Attendance by ICSTM staff at ESOC will be required for RPC Commissioning (7days) , ICA/IES HV turn on (1 day), Pointing Scenarios (17 days), Interference Scenarios (5 days).
25/04/03	07/03/05	682	CR1	Cruise Phase 1 (Near Sun Hibernation Mode) Initially weekly contact with S/C followed by monthly contacts Payload checkouts #1-#3	Payload checkouts will be performed non-interactively and their duration will be approximately 1 week. It is not expected that presence at ESOC will be necessary. No science operations officially planned for this period although a request by RPC has been made for measurements of the Solar Wind.
07/03/05	25/09/05	202	MARS	MARS (Active Cruise Mode) Daily ground contact Payload checkout #4 (extended)	High activity period Current plan is RPC operations +-3 days from closest approach to MARS. Additional operations may be possible although pointing will not be possible. Extended (interactive) payload checkout will occur c. April 2005 (Presence at ESOC may be necessary)
25/09/05	29/10/05	34	CR2	Cruise Phase 2 Weekly ground contact (Active Cruise Mode)	RPC is scheduled to be operational throughout this period. Routine operations should be performed
29/10/05	28/12/05	60	EAR1	EAR1 Payload checkout #5 (extended)	High activity period. RPC operational throughout. Extended coverage is required if Magnetic test is scrapped to allow calibration of MAG sensors (with PIU software) Extended (interactive) payload checkout will occur c. Nov 2005 (Presence at ESOC may be necessary).
28/12/05	09/02/06	43	CR3	Cruise Phase 3 Weekly Contact with spacecraft	RPC is scheduled to be operational throughout this period. Routine operations should be performed to monitor the solar wind
09/02/06	09/09/06	212	Otawara Flyby	Otawara Flyby Daily contact with spacecraft Payload checkout #6 & #7 (extended)	High activity period RPC operations scheduled – although return may be traded in return for greater coverage during Mars/Earth swingbys Interactive checkouts which may require presence at ESOC
09/09/06	29/10/07	415	CR4	CR4 Payload checkout #8	RPC is scheduled to be operational throughout this period. Routine operations should be performed to monitor the solar wind

Dates		Duration			
From	To	(Days)	ESA acronym	Description	Activities
29/10/07	28/12/07	60	EAR2	EAR2 Payload checkout #9 (extended)	High activity period Interactive checkouts which may require presence at ESOC
28/12/07	25/04/08	119	CR5	CR5	RPC is scheduled to be operational throughout this period. Routine operations should be performed to monitor the solar wind
25/04/08	22/09/08	150	Siwa Flyby	Siwa Flyby Payload checkout #10 & #11 (extended)	High activity period RPC operations scheduled – although return may be traded in return for greater coverage during Mars/Earth swingbys Interactive checkouts which may require presence at ESOC
22/09/08	31/03/09	190	CR6	CR6 Payload checkout #12	Check performed using mission time-line
31/03/09	28/08/09	150	RV1	Rendez-vous Manouver 1	Power levels not sufficient to operate payload
28/08/09	30/09/11	763	CR7	Deep Space Hibernation No ground contact available	Very low activity Power levels not sufficient to operate payload
30/09/11	29/12/11	90	RV2	Rendez-vous Manouver 2	Power levels not sufficient to operate payload
29/12/11	09/07/13	558	Comet Phases	Comet Phases	Mini-commissioning sequence followed by routine operations. Mini-commissioning may require presence at ESOC
09/07/13	07/10/13	90	Run down	Run down	Extended operation of RPC to monitor comet-sun activity

Table 3.2-2: Specific RPC Timeschedule

3.3 Failure Detection and Recovery Strategy

3.3.1 General

Experiment failure analysis has two elements: failure mode analysis, to be performed as a theoretical and experimental exercise at the design stage; and failure diagnosis to be performed as contingency activity during operations..

3.3.1.1 Failure Mode Analysis

An FMECA has been provided at the EIDR giving details of failure modes regarding mainly electrical interfaces with their effects of the performance of the RPC group of instruments. The design premise is that a single failure should affect no more than one instrument from the RPC group and that cross-coupling between redundant hardware branches should allow a 'graceful degradation' in the event of multiple failures.

3.3.1.2 Failure diagnosis in flight

The PIU is used to provide the first level failure diagnosis. It gathers house-keeping information from the RPC instruments and places relevant material in the HK channel according to a set of pre-defined rules. A simple analysis of the house-keeping information is made by the PIU to decide whether any instrument is behaving in a manner which requires it to be shut-down. In the event of an instrument being shut-down by the PIU or the whole of the RPC instrument group being shut-down by the spacecraft, the Commissioning Procedure will be used as the basis for a step-by-step switch-on, to locate and isolate any defective hardware element.

3.3.2 PIU

3.3.3 IES

3.3.4 ICA

ICA has a number off failure detection mechanisms.

1. A watchdog counter that is periodically reset. Failure to do so will raise a hardware reset.

2. The RAM memory has an error detection and correction mechanism. If it fails to correct a signal will be raised with a subsequent watchdog reset.
3. The code memory part is protected by low and high address limits. Any attempt to write into that area by an unprivileged software module will raise an exception with a subsequent watchdog reset.
4. Other exceptions like illegal instructions, reading instructions from outside the code memory are handled as under 3.

When the microprocessor is restarted by a watchdog reset all program code and initialised data will be reloaded except for the context area. The context area exists in three copies well spread in memory. The context is error checked by comparing the three areas and if possible corrections are made. If corrections can not be made the default value is loaded. After correction a feasibility of the context is made. This way ICA should in most cases be able to recover completely to the state before the failure.

3.3.5 LAP

3.3.6 MIP

MIP has a watchdog which consists of a counter periodically reset. If the watchdog is not refreshed, an alarm signal is sent to PIU (through the link). PIU powers immediately MIP off after reception of an alarm signal.

The MIP watchdog can be inhibited with a command (Set_Wd [1]).

The alarm protocol has been simplified; no retry to be on after an alarm signal :

- PIU powers MIP off when ‘alarm' and ‘over-current detection';
- The status of this alarm signal is put into an event reporting;
- MIP stays off until the next on command.

If no data are received during TBD consecutive sequences, PIU resets the link.

3.3.7 MAG

4.0 Mode Descriptions

4.1 Mode Transition Diagram

4.1.1 RPC

Refer to Figure 4.1-1.

4.1.2 Experiments

4.1.2.1 PIU

To get to the following modes from any other mode:
Power On Main to Nominal
Power Off Main
Power On Redundant to Nominal
Power Off Redundant
Maintenance Mode
Power on Experiment (IES, ICA, LAP, MIP, MAG)

Refer to Figure 4.1-2.

4.1.2.2 IES

Refer to Figure 4.1-4.

4.1.2.3 ICA

The ICA experiment can switch from any telemetry/data reduction mode combination to any other by means of commands.

N.B. The ICA can by a single 16-bit combination command be switched to any telemetry/data reduction mode combination, switch high voltages ON and reboot from EEPROM with or without default context.

Refer to Figure 4.1-3.

4.1.2.4 LAP

Refer to
Figure 4.1-5.

4.1.2.5 MIP

Sequence definition (See Onboard Data Handling, RPC/MIP/RP/13/980317/LPCE, Ed. 3/4, 20/9/00)

Refer to Figure 4.1-7.

4.1.2.6 MAG

There is only one fixed mode of operation for MAG which is 20 vectors per second for both sensors. MAG wakes up in this mode just after power MAG on. (No other command, no range switching!)

Only depending on bit rate capabilities the PIU can reduce the MAG bit rate just by decimating and filtering down these 20 vectors per second (ref. Section 4.2.2.6 for the detailed mode description)

Refer to Figure 4.1-6.

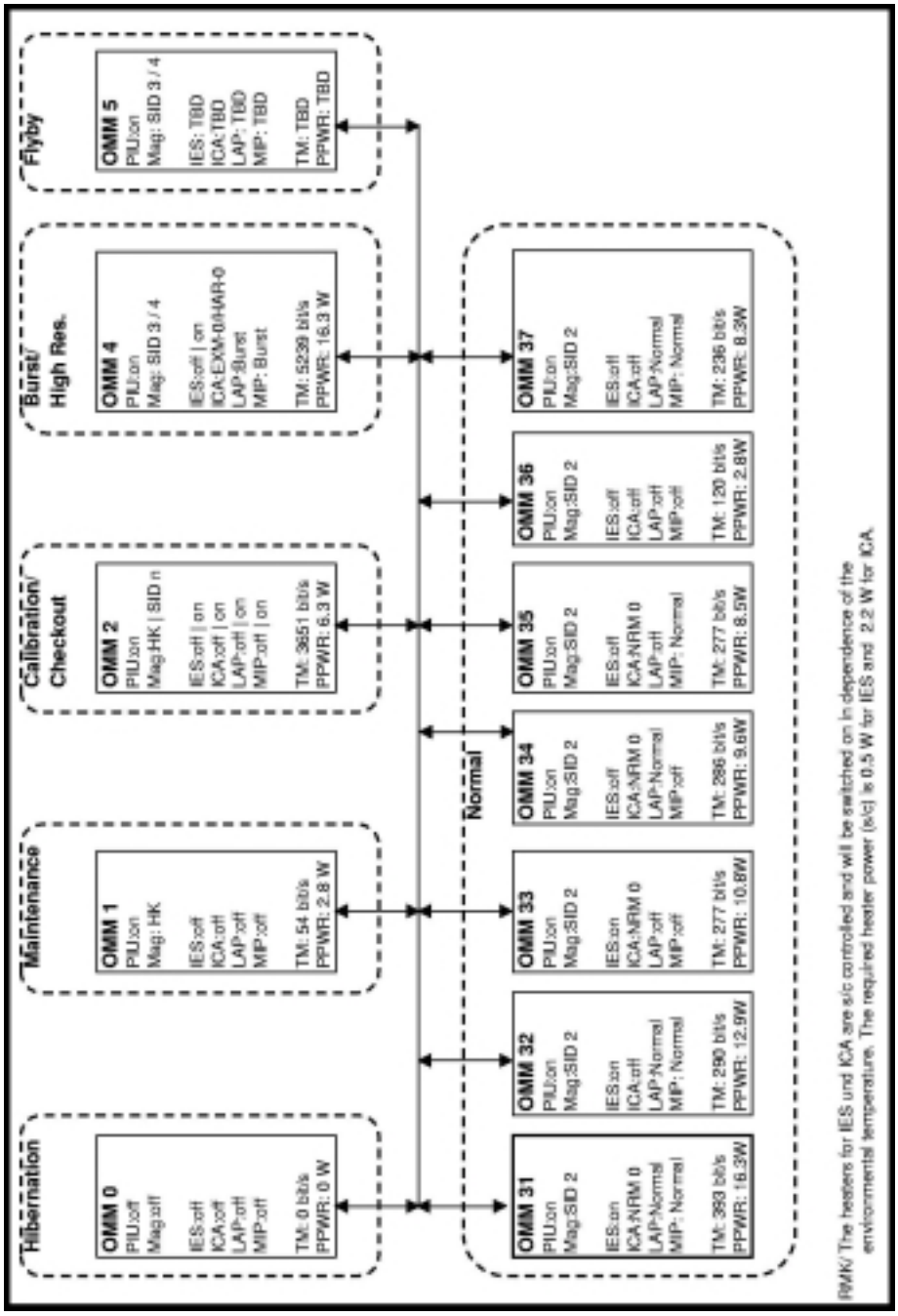


Figure 4.1-1: RPC Mode Transition Diagram

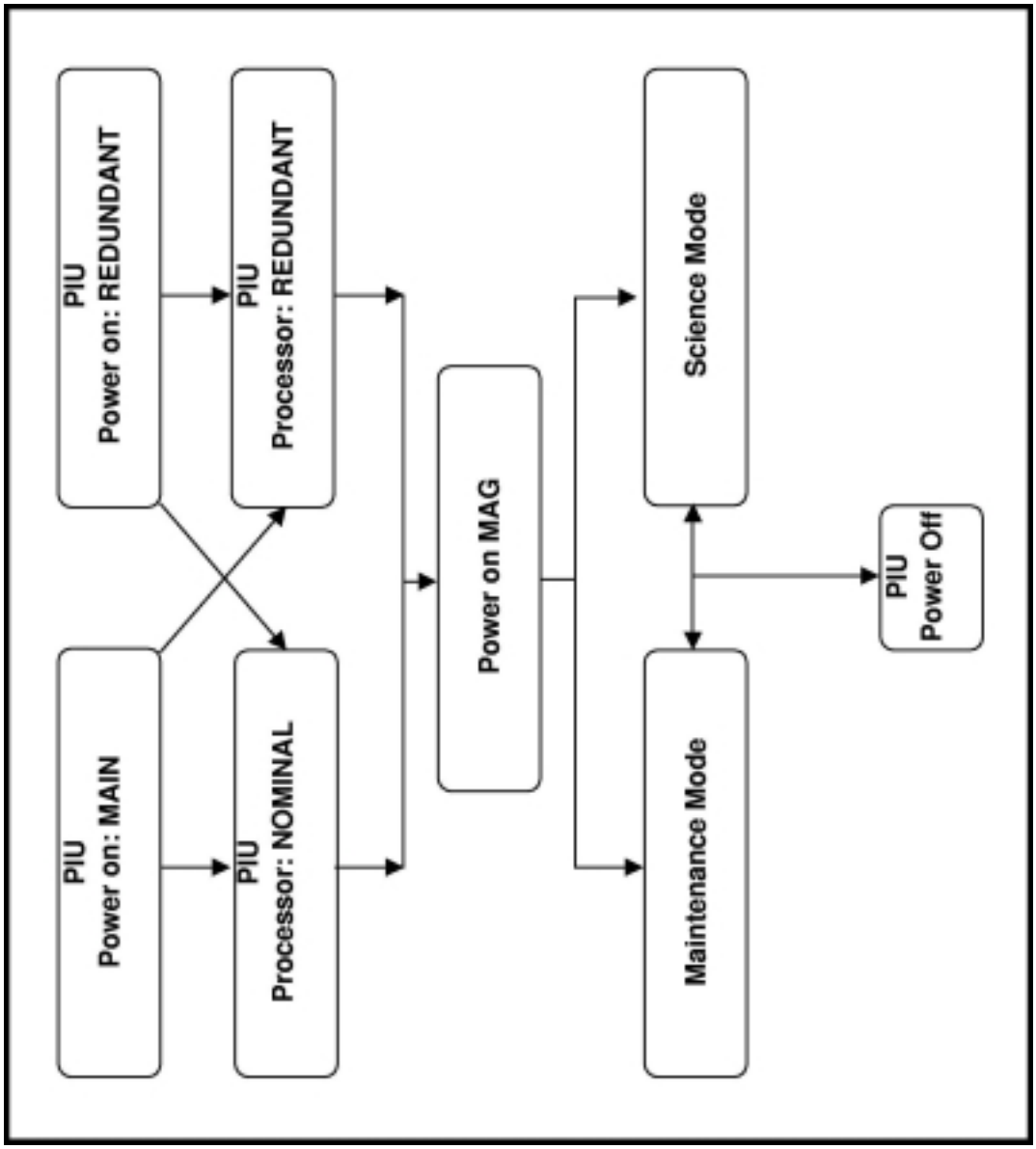


Figure 4.1-2: PIU Mode Transition Diagram

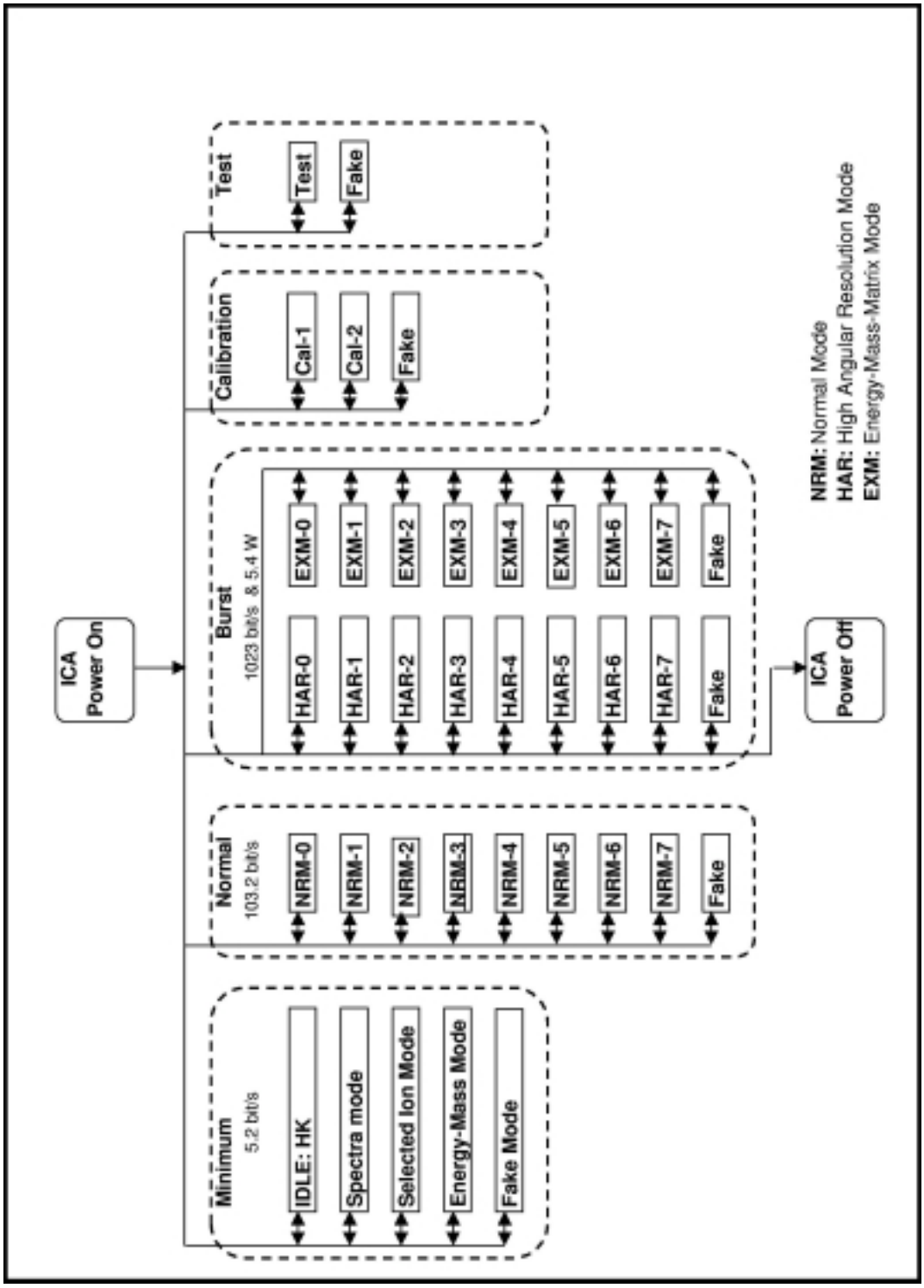


Figure 4.1-3: ICA Mode Tranisition Diagram

Figure 4.1-4: IES Mode Transition Diagram

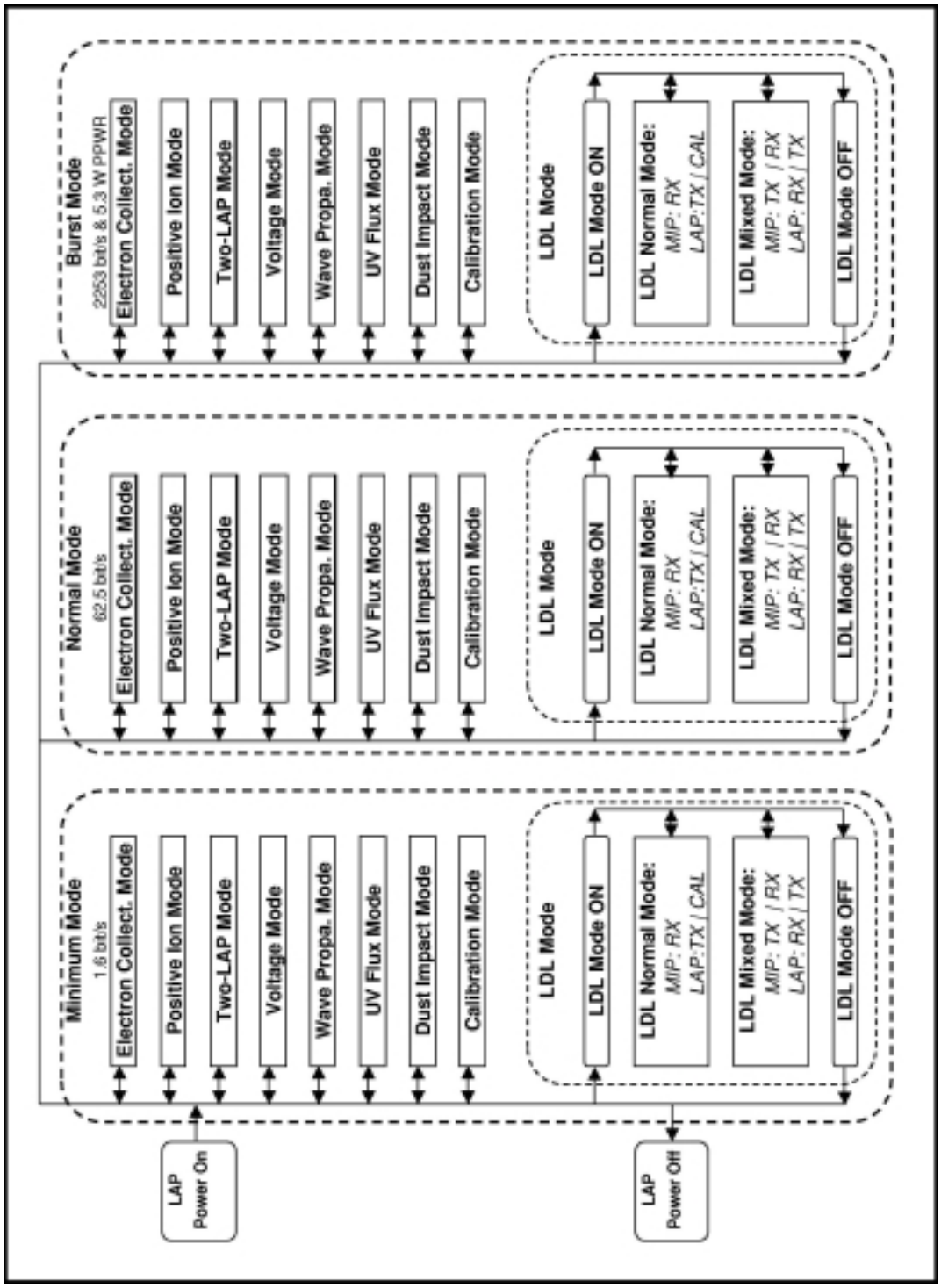


Figure 4.1-5: LAP Mode Transition Diagram

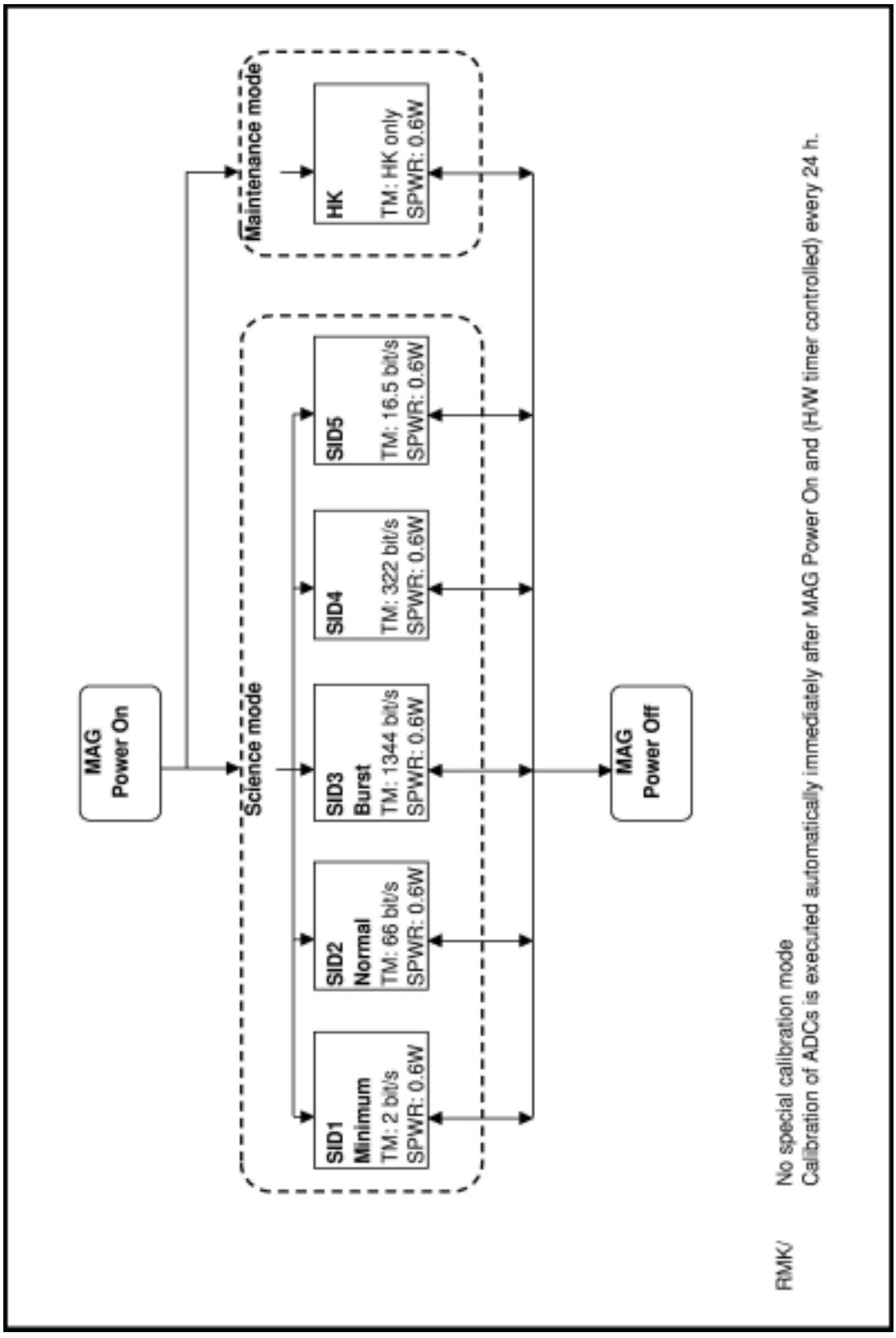


Figure 4.1-6:MAG Mode Transition Diagram

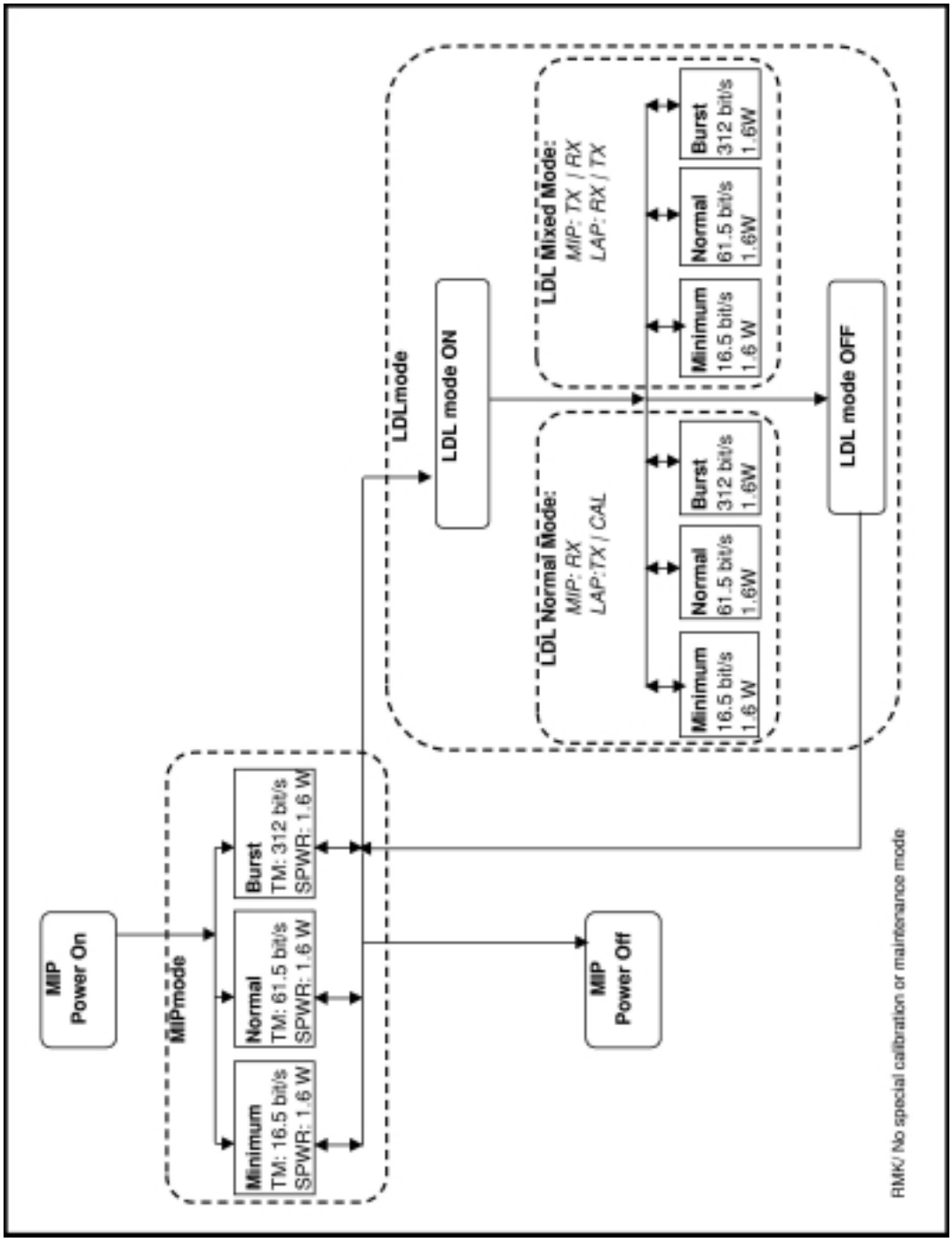


Figure 4.1-7: MIP Mode Transition Diagram

4.2 Detailed Mode Description

4.2.1 RPC

4.2.1.1 Instrument Operating Modes

RPC will be operated in the following modes:

- OMM 0: Hibernation mode
- OMM 1: Maintenance mode
- OMM 2: Calibration mode
- OMM 3: Normal mode
- OMM 4: Burst mode
- OMM 5: Flyby mode

These OMMs are described in detail in the following subsections. Internally, other sub-modes are defined, corresponding power and telemetry requirements or mission phases. External and internal modes are distinguished by status information transmitted in the housekeeping telemetry.

4.2.1.1.1 Hibernation mode: OMM 0

In this Mode 0 all sensors of the RPC as well as the PIU are switched off. No data are taken.

Power requirements:
None ;
Required heater power (s/c) : ICA 2.2 W
IES 0.5 W

Telemetry requirements:
None

4.2.1.1.2 Maintenance mode: OMM 1

In this mode none of the sensors is taking scientific data. The PIU and MAG are in operation and deliver housekeeping data to the telemetry. This mode is to monitor the PIU and RPC status during the cruise phase.

Power requirements: 2800 mW primary
Telemetry requirements: 54.0 bit/s

4.2.1.1.3 Calibration mode: OMM 2

In this mode each of the different sensors is switched-on individually for check-out and in-flight calibration purposes. As housekeeping data are handled via the MAG sensor telemetry MAG is taking data continuously during this mode. An automatic calibration sequence for each RPC experiment shall be initialized.

Power requirements:	6284 mW primary maximum power with MAG, PIU, and ICA on
Telemetry requirements:	3651 bits/s maximum with MAG, PIU, and LAP on

4.2.1.1.4 Normal mode: OMM 3

In this mode normal science operation during the comet drift, approach, mapping, lander delivery, and escort phase is performed. All sensors and the PIU are preferred to be operational in this mode. However, to accommodate the limited power and telemetry resources several sub-modes are defined. Following modes are planned:

Mode 31:
All sensors and the PIU are operational
Power requirement: 16339 mW nominal primary
Tele. requirements: 392.7 bit/s normal

Mode 32:
ICA off; all other sensors and PIU operational
Power requirement: 12855 mW nominal primary
Tele. requirement: 289.5 bit/s normal

Mode 33:
LAP and MIP off; IES, MAG, ICA, PIU on
Power requirement: 10796 mW nominal primary
Tele. requirement: 276.7 bit/s normal

Mode 34:
IES and MIP off; ICA, LAP, PIU, and MAG on
Power requirement: 9634 mW nominal primary
Tele. requirement: 285.7 bit/s normal

Mode 35:
IES and LAP off; ICA, MIP, MAG, and PIU on

Power requirement: 8477 mW nominal primary
Tele. requirement: 276.7 bit/s normal

Mode 36:
LAP, MIP, ICA, IES off; MAG, and PIU on
Power requirement: 2800 mW nominal primary
Tele. requirement: 120.0 bit/s normal

Mode 37:
IES, ICA off; MAG, MIP, LAP, and PIU on
Power requirement: 8343 mW nominal primary
Tele. requirement: 236.0 bit/s normal

4.2.1.1.5 Burst modes: OMM 4

All RPC sensors can be operated in very high-time resolution modes, that means all sensors can be operated in a burst mode. The telemetry requirements are within the normal telemetry rates provided sufficient S/C memory is available. The detailed commanding and memory operation is TBD and strongly depends on the scientific questions to be studied. Burst mode telemetry and power requirements are sensor specific. The power requirements and the maximum PIU telemetry are summarised in Table 4.2-1.

SENSOR	POWER [mW] (Primary)	MAXIMUM DATA RATE [BIT/S] (BURSTMODE)
LAP	5310	2253
MIP	4153	304
IES	6472	257
ICA	5444	1027
MAG	2800	1344
PIU	1175	54
RPC Total	16339	5239

Table 4.2-1: Power Requirements and maximum telemetry rate
Remark: It should be noted that these figures are not additive, but include the individual sub-experiment power and bit rates as well as the PIU overhead.

4.2.1.1.6 Flyby mode: OMM 5

During the Earth, Mars, and asteroid flyby the RPC package is expected in the OMM 31. However, the specific modes are TBD depending on power and telemetry available.

4.2.1.2 Summary of Mode Characteristics

The bit rate of each individual sensor in different modes are summarised in the following table, where the PIU bit rate includes all HK data:

	MINIMUM [BIT/S]	NORMAL [BIT/S]	MAXIMUM [BIT/S] (BURSTMODE)
PIU	54.0	54.0	54.0
IES	5.3	53.5	257.0
ICA	5.2	103.2	1023.0
LAP	1.6	62.5	2253.0
MIP	16.5	61.5	312.0
MAG	2.1	66.0	1344.0

Table 4.2-2: RPC Operational Modes and Bit Rates

The power and TM requirements for the different OMMs are summarised in the following table.

OPERATIONAL MACRO MODE		RPC-PRIMARY POWER [mW]	TELEMETRY RATE [Bit / s]
Hibernation	OMM 0	0	0
Maintenance	OMM 1	2800	54.0
Calibration	OMM 2	6284	3651.0
Normal	OMM 31	16339	392.7
	OMM 32	12855	289.5
	OMM 33	10796	276.7
	OMM 34	9634	285.7
	OMM 35	8477	276.7
	OMM 36	2800	120.0
	OMM 37	8343	236.0
Burst	OMM 4	16339	5239.0
Flyby	OMM 5	16339	392.7

Table 4.2-3: RPC Operational Macro Modes Summary

4.2.2 Experiments

4.2.2.1 PIU

4.2.2.2 IES

4.2.2.3 ICA

The ICA modes can be described as a combination of a telemetry mode and a data reduction mode. The number of energy levels (32 or 96) is tied to the data reduction mode. In principle any one combination of telemetry and data reduction mode can be used, but some combinations will not optimize the use of the telemetry capacity. Further more ICA has a built in way to autonomously change the data reduction within some mode groups.

The normal combination of telemetry and data reduction modes are:

Telemetry	Data reduction
Minimum	Spectra, Selected Ion Species, Energy-Mass matrix
Normal	Normal (0-7)
Burst	High angular resolution (0-7), Energy-Mass matrix (0-7)
Calibration	Calibration 1
Special	Calibration 2
Test	Test

Table 4.2-4: LCA TM modes & Data reduction

The Normal and Burst Data reduction modes can autonomously change their reduction scheme (indicated by 0-7) to adopt to the TM capacity. This is controlled by the amount of data in the telemetry FIFO against a low and a high water mark.
The measured parametric space is mass bins, polar angles, azimuth angles and energies. The table below gives the characteristic for each individual mode. The Minimum modes deliver up to Max sets. The number of sets is adjusted so that on the average the data production stays within the TM capacity.

Mode	Mass bins	Azimuth angles	Energies	Polar angles	Max sets
Idle *	0	0	0	0	0
Void					
Spectra	2	1	32	1	15
Void					
Selected ions	6	1	96	1	5
Energy-Mass	32	1	96	1	1

*) The Idle mode is a none-science mode, i.e. it delivers no science data.
Table 4.2-5: Minimum Telemetry (Cycle time 960 seconds).

Mode	Mass bins	Azimuth angles	Energies	Polar angles
NRM-0	6	16	96	16
NRM-1	6	16	96	8
NRM-2	6	16	96	4
NRM-3	6	16	96	2
NRM-4	6	8	96	2
NRM-5	6	4	96	2
NRM-6	3	4	96	2
NRM-7	3	4	96	1

Table 4.2-6: Normal Telemetry (Cycle time 192 seconds).

Mode	Mass bins	Azimuth angles	Energies	Polar angles
HAR-0	16	16	96	16
HAR-1	16	16	96	8
HAR-2	16	16	96	4
HAR-3	8	16	96	4
HAR-4	4	16	96	4
HAR-5	2	16	96	4
HAR-6	2	8	96	4
HAR-7	2	8	96	2

Table 4.2-7: Burst Telemetry, High angular resolution.
(Cycle time 192 seconds).

Mode	Mass bins	Azimuth angles	Energies	Polar angles
EXM-0	32	16	96	16
EXM-1	32	16	96	8
EXM-2	32	16	96	4
EXM-3	32	16	96	2
EXM-4	32	8	96	2
EXM-5	32	4	96	2
EXM-6	32	2	96	2
EXM-7	32	2	96	1

Table 4.2-8: Burst Telemetry, Energy-Mass matrix.
(Cycle time 192 seconds).

- *Special modes*
  The special modes do not allow any TM FIFO backlog, as do the other modes. They all have a cycle time of 32 seconds.

- *The Test mode*
  delivers ”hardware close” information and is tailored for ground testing and in orbit commissioning. When running in TM-test mode it will be synchronized with the TM packets.

- *The Calibration 1 mode*
  delivers one uncompressed imager per Experiment format. When running in TM-calibration mode it will be synchronized with the TM packets.

- *The Calibration 2 mode*
  delivers a full 96 energy-step x full imager compressed data set. It will, thus, be floating in the TM packets.

- *The Fake mode*
  is used to test the 1355 link between PIU and ICA. Except for the ICA format header it delivers a by one incremented 16-bit counter as data. It can run in any TM mode and will always be synchronized to the TM packets.

4.2.2.4 LAP

The Langmuir probe can be operated in different modes:

4.2.2.4.1 Standard LAP Modes

1. ***Electron collection mode:***
   A probe with positive voltage bias provides the measurements of $n_e (T_e)^{-½}$. If n_e is determined separately, then T_e can be accurately measured or conversely.

2. ***Positive ion collection mode:***
   A probe with negative voltage bias provides the measurements of n_i / v_i. If the ion velocity is determined separately, then $n_i = n_e$ can be accurately measured or conversely.

3. ***Two Langmuir probe mode:***
   Provides by a cross-correlation of probe current fluctuations (time-of-flight) the plasma velocity component in direction of probe separation ($v_p = v_i$). This velocity is assumed to equal the neutral gas velocity.

A sequence of measurements 1, 2, and 3 provides the three basic variables electron number density, electron temperature, and plasma drift velocity. The LAP probes can also be used for the following measurements:

4. ***Density fluctuations measurement:***
   Study of turbulence in the plasma-neutral gas flow of the inner coma and study of low frequency plasma waves.

5. ***Measurements of spacecraft potential*** **:**
   The probe is biased with a current (voltage mode): important for low-energy electron and ion measurements, possible reference for the other particle sensors.

6. ***Detection of AC electric fields with one or two LAPs in voltage mode.***

7. ***Active propagation experiment:***
Propagation of artificial ion-acoustic pulses to determine the ion flow velocity, and measurement of transfer impedance to determine the electron density.

8. ***Measurements of solar UV integrated ionizing flux:***
Measurements of photoelectron saturation current, a parameter of interest to understand the ionisation of cometary gases, especially if the innermost coma is optically thick.

9. ***Measurements of micrometeroid and dust impacts.***

4.2.2.4.2 LDL MODE

Together with the MIP instrument LAP will enter a common mode, the Long Debye Length mode (LDL Mode). In this mode the MIP instrument will have full access to one of the LAP probes. Two variants of the LDL mode are defined, the LDL Normal (see Section 4.2.2.4.2.1) and LDL Mixed (see Section 4.2.2.4.2.2).

4.2.2.4.2.1 LDL Normal Mode

In the LDL Normal mode LAP simply lends one probe to MIP. During this period LAP does essentially nothing with the other probe, this means LAP does nothing that is interfered or interferes with MIP transmitting or measuring. How to set up and synchronise the two instruments are described in Section 4.2.2.4.2.3.

4.2.2.4.2.2 LDL Mixed Mode

In the LDL Mixed mode LAP does mixed measurements, thus MIP uses the probe in every second AQP and LAP does nothing. Interleaved between the times MIP uses the lent probe and LAP uses the other probe and MIP does nothing, (LAP could also use the probe lent out to MIP, but LAP wants to minimise relay switches). How to set up and synchronise the two instruments is described in Section 4.2.2.4.2.3.

4.2.2.4.2.3 MIP & LAP Synch.

To get the two instruments to interact smoothly with each other some kind of synchronisation is necessary. This is particularly important in the mixed mode, since if there is a shift in the AQP period with respect to the other the LAP measurement is performed when MIP sends, which is a bad timing.

The synchronisation and set up of the two instruments is best handled by the S/C DMS. This method requires that the DMS can check HK and branches depending on the result. Furthermore two bits are needed in both MIP and LAP HK to achieve synchronisation. If the acknowledge in HK is negative it retries several times (about 3 times). As soon as an instrument (LAP or MIP) enters LDL mode it should set one bit to indicate this in the MIP_LDL and the LAP_LDL. It should also set a toggle bit MIP_LDL_SYNC and LAP_LDL_SYNC. The instruments toggle the synchronisation bits every AQP making it possible to synchronise the instruments by comparing these two bits.
If we are out of sync for an even number of AQPs, we are again in sync
afterwards. Therefore only one bit is needed.
The instruments will be out of sync when one instrument starts up in one AQP and the other in the next, happening if commands are received at a boundary of an AQP.

4.2.2.5 MIP

The modes are described in details in Onboard Data Handling, RPC/MIP/RP/13/980317/LPCE, Ed. 3/4, 20/9/00.

A sequence is a series of elementary working modes run during an acquisition period (32 seconds). Four types of sequences have been defined :

- MIP science sequence
- LDL science sequence
- Control sequence
- Table sequence.

For one science type, several sub-sequences will be defined with different series of elementary modes.

The MIP science sequences correspond to the nominal operating order of the experiment around the comet when the Debye length is greater than a few millimeters and lower than ~20 cm. Transmission and reception are done with the MIP antenna. Combination of elementary modes „Survey“, „Sweep“ and „Passive“ are run.

The LDL science sequences correspond to the nominal operating mode with MIP and LAP experiments when the Debye length is greater than ~20 cm. The Langmuir probe LAP2 is used as a long distance transmitter and MIP antenna is used for reception. Combination of modes „LDL“ and „Passive“ are run.

The Control sequence is a special sequence used to check the working state of the experiment when MIP is set on. It is automatically run once, before the science sequences. Its tasks are the reception and decoding of the commands coming from the PIU (configuration table) and a check-out of the experiment.

The Table sequence is defined to decode the commands which arrive during a science MIP or LDL sequence. This case occurs for example when MIP is set first in MIP modes and then in LDL mode. This sequence is like a Control sequence without experiment check-out.

Each LDL mode has to be preceded by MIP science mode.

MIP has only two operating modes :
- MIP mode,
- LDL mode (common with LAP).

Each operating mode can be set with one of the 3 telemetry rates.
MIP has no special test or calibration mode.

The total telemetry data, **HK + science**, transmitted to the S/C (CCSDS formatted) are :
- in minimum rate : 66 bytes every 32 s, rate of 16.5 b/s,
- in normal rate : 246 bytes every 32 s, rate of 61.5 b/s,
- in burst rate : 1248 bytes every 32 s, rate of 312 b/s.

The nominal power consumption (secondary) is :
- in minimum rate : 1190 mW,
- in normal and burst rates : 1625 mW.

The operational modes have to be defined within RPC

4.2.2.6 MAG

The MAG Science Data Modes are defined as follows:

Science Mode	Sample Rate	Packet Period	Packet Length	Bit Rate	Name
SID 1	1/32 Hz	1024 s	32 OB vec 1 IB vec	2 bits/s	Minimum Mode
SID 2	1 Hz	32 s	32 OB vec 1 IB vec	66 bits/s	Normal Mode
SID 3	20 Hz	16 s	320 OB vec 16 IB vec	1344 bits/s	Burst Mode
SID 4	5 Hz	32 s	160 OB vec	322 bits/s	

			1 IB vec		
SID 5	¼ Hz	128 s	32 OB vec 1 IB vec	16.5 bits/s	

Table 4.2-9: MAG Science Modes and vector rates

The magnetometer vector rates for IB and OB (main) correspond to the above defined modes as follows:

- **Minimum Mode:**
  1 packet every 1024 s containing 32 vectors from OB sensor and 1 from IB sensor. (total 2112 bits/1024 s)
- **Normal Mode**:
  1 packet every 32 s containing 32 vectors from OB sensor and 1 vector from IB sensor. (total 2112 bits/ 32 s)
- **Burst Mode**:
  1 packet every 16 s containing 320 vectors from OB sensor and 16 vectors from IB sensor. (total 21504 bits/16 s)
- **SID 4 Mode:**
  1 packet every 32 s containing 160 vectors from OB sensor and 1 vector from IB sensor. (total 10304 bits/ 32 s)
- **SID 5 Mode:**
  1 packet every 128 s containing 32 vectors from OB sensor and 1 vector from IB sensor. (total 2112 bits / 128 s)

Each vector consisting of three components XOB,YOB,ZOB or XIB,YIB,ZIB is sampled by a 20 bit A/D converter. 4 bits identification per vector are added to get 8 bytes per vector (64 bits).

5.0 Operational Procedures

5.1 Ground Test Sequences / SVT

5.1.1 RPC

5.1.1.1 UFT

The procedure is defined in the Alenia Document RO-ALS-PR- 4051 “RPC I&T - UFT Procedure for EM/EQM”

5.1.1.2 IST

The procedure is defined in the Alenia Document RO-ALS-PR- 4037 “RPC IST Procedure”

5.1.1.3 SVT

For the procedure definitions refer to the following documents:

RO-ESC-PR-5130	System Validation Test Plan
RO-RPC-MA-6002	RPC Operations Planning Document
RO-RPC-TS-6006	SVT Test Script

5.1.2 Experiments

5.1.2.1 PIU

5.1.2.2 IES

5.1.2.3 ICA

5.1.2.4 LAP

5.1.2.5 MIP

The ground test sequences are described in MIP/PIU Data Handling Interface, RPC/MIP/RP/126/990253/LPCE, Ed.3, Rev. 2, 18/9/00.

The SFT is performed to check the experiment during RPC tests. The main working modes are run with the normal telemetry rate.

The Bench Test (BT) will be performed to verify the experiment during RPC integration. All the working modes and all the telemetry rates are run.

5.1.2.6 MAG

There is the same procedure for the Bench Test, the UFT, and the IST:

- For the functional test in the RPC integrated configuration it must be assured that the Mumetal can is installed properly on the boom according to installation procedure (see MAG ADP).
- Check that MAG EGSE (notebook) is connected via network to the IC-London RPC-EGSE.
- Power MAG on.
- Wait for 3 minutes and check MAG sensors to be in range (all 6 components). If out of range tune sensor position/orientation, respectively move the Mumetal can slightly in boom axis direction until all sensor components are in range.
- Check housekeeping channels versus nominal values including sensor temperatures.
- Run test about 5 minutes and control sensor reading stability. (Due to the LAB environment this stability will be in the order of several 10 nT per second or minute with excursions to several 100 nT, if H/W is moved close to the S/C.) Easiest control is to take the first science data packets as reference and compare al following data with these packets. There is no fixed value that can be given and no known stability of the magnetic field in the LAB; the Mumetal can just reduces ambient field by a factor of 5 – 10 and the technical noise in the LAB.
- The HK parameters have to be checked against the values listed in Table 2.3-7.

The detailed procedures are defined by the PIU-IC team.

5.2 OBCPs

Refer to section 2.3.4.2.

5.3 FCPs

For the procedure definition refer to the documents

RO-RPC-TS-6006	SVT Test Script
RO-RPC-MA-6002	RPC Operations Planning Document
RO-ESC-PR-5130	System Validation Test Plan

5.4 Contingency Recovery Procedures

These procedures are described as well in

RO-RPC-TS-6006	SVT Test Script
RO-RPC-MA-6002	RPC Operations Planning Document

6.0 Data Operations Handbook

The tables below are based on the RSDB from February 6th, 2002.

6.1 RPC Telecommand Definitons

6.1.1 C_TCPCK

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	MINLENGTH	MAXLENGTH	AUTHORISATION	COMPRESSION	ACKTYPE	RED_PCK	NOTE	EARRANGED	CALCSIZE
ZRP00201	N	Power On PIU	7	ETC00201D0OO	83	12	SPACE	18	18	Y	NONE	RECP			N	144
ZRP00305	N	Enable PIU HK	7	ETC00305HKEN	83	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP00306	N	Disable PIU HK	7	ETC00306HKDS	83	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP00602	N	PIU Memory Load	7	ETC00602MMLD	83	12	SPACE	22	248	Y	NONE	BOTH			N	1984
ZRP00605	N	PIU Memory Dump Request	7	ETC00605MMDP	83	12	SPACE	20	20	Y	NONE	RECP			N	160
ZRP00609	N	PIU Memory Check	7	ETC00609MMCK	83	12	SPACE	20	20	Y	NONE	RECP			N	160
ZRP00901	N	Accept Time Update	7	ETC00901TSAC	83	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP01701	N	Request Connection test	7	ETC01701CTST	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP10305	N	Enable IES HK	7	ETC00305HKEN	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP10306	N	Disable IES HK	7	ETC00306HKDS	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP10602	N	IES Memory Load	7	ETC00602MMLD	84	12	SPACE	22	248	Y	NONE	BOTH			N	1984
ZRP10605	N	IES Memory Dump Request	7	ETC00605MMDP	84	12	SPACE	20	20	Y	NONE	RECP			N	160
ZRP10609	N	IES Memory Check	7	ETC00609MMCK	84	12	SPACE	20	20	Y	NONE	RECP			N	160
ZRP12001	N	Enable IES Science	7	ETC02001SDEN	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP12002	N	Disable IES Science	7	ETC02002SDDS	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP19201	N	Set IES Power	7	ETC19201	83	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP19202	N	Set ICA Power	7	ETC19202	83	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP19203	N	Set LAP Power	7	ETC19203	83	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP19204	N	Set MIP Power	7	ETC19204	83	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP19205	N	Set MAG Power	7	ETC19205	83	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP19301	N	Reset IES Link	7	ETC19301	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19302	N	Reset ICA Link	7	ETC19302	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19303	N	Reset LAP Link	7	ETC19303	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19304	N	Reset MIP Link	7	ETC19304	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19305	N	Reset MAG Link	7	ETC19305	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19306	N	Reset DPIU	7	ETC19306	83	12	SPACE	12	12	N	NONE	NONE			N	96
ZRP19307	N	Reset SCAT TC Channel	7	ETC19307	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19308	N	Reset SCAT TM Channel	7	ETC19308	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19401	N	Reset H/W and S/W TM FIFO	7	ETC19401	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19402	N	Revert RAM Map	7	ETC19402	83	12	SPACE	12	12	N	NONE	RECP			N	96

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	MINLENGTH	MAXLENGTH	AUTHORISATION	COMPRESSION	ACKTYPE	RED_PCK	NOTE	EARRANGED	CALCSIZE
ZRP19403	N	Invert RAM Map	7	ETC19403	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19404	N	Set Software Location	7	ETC19404	83	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP19405	N	Set to Maintenance Mode	7	ETC19405	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19406	N	Set to Normal Mode	7	ETC19406	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19407	N	Patch from EEPROM	7	ETC19407	83	12	SPACE	16	16	N	NONE	BOTH			N	128
ZRP19408	N	Set Keyhole Word Address	7	ETC19408	83	12	SPACE	16	16	N	NONE	RECP			N	128
ZRP19409	N	Report Last AQP. Time	7	ETC19409	83	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP19410	N	Control Parameter Monitor	7	ETC19410	83	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP19411	N	Give a Mip Dog a Bone	7	ETC19411	83	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP19501	N	Set IES Link	7	ETC19501	83	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP19502	N	Set ICA Link	7	ETC19502	83	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP19503	N	Set LAP Link	7	ETC19503	83	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP19504	N	Set MIP Link	7	ETC19504	83	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP19505	N	Set MAG Link	7	ETC19505	83	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP19601	N	IES Test	7	ETC19601	83	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP19602	N	ICA Test	7	ETC19602	83	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP19603	N	LAP Test	7	ETC19603	83	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP19604	N	MIP Test	7	ETC19604	83	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP19605	N	MAG Test	7	ETC19605	83	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP20305	N	Enable ICA HK	7	ETC00305HKEN	85	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP20306	N	Disable ICA HK	7	ETC00306HKDS	85	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP20602	N	ICA Memory Load	7	ETC00602MMLD	85	12	SPACE	22	248	Y	NONE	BOTH			N	1984
ZRP20605	N	ICA Memory Dump Request	7	ETC00605MMDP	85	12	SPACE	20	20	Y	NONE	RECP			N	160
ZRP20609	N	ICA Memory Check	7	ETC00609MMCK	85	12	SPACE	20	20	Y	NONE	RECP			N	160
ZRP21001	N	IES-COMM-RATE-MODE	7	ETC21001	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP21116	N	IES-DATA-ACQ-EN	7	ETC21116	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP21117	N	IES-DATA-ACQ-TABLE	7	ETC21117	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP21119	N	IES-DATA-GENERATE-EN	7	ETC21119	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP21348	N	IES-HV-DEF-ADJ	7	ETC21348	84	12	SPACE	16	16	Y	NONE	RECP			N	128
ZRP21349	N	IES-HV-DEF-EN	7	ETC21349	84	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP21350	N	IES-HV-ELC-MCP-ADJ	7	ETC21350	84	12	SPACE	16	16	Y	NONE	RECP			N	128
ZRP21351	N	IES-HV-ELC-MCP-EN	7	ETC21351	84	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP21352	N	IES-HV-ESA-ADJ	7	ETC21352	84	12	SPACE	16	16	Y	NONE	RECP			N	128
ZRP21353	N	IES-HV-ESA-EN	7	ETC21353	84	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP21354	N	IES-HV-ION-MCP-ADJ	7	ETC21354	84	12	SPACE	16	16	Y	NONE	RECP			N	128
ZRP21355	N	IES-HV-ION-MCP-EN	7	ETC21355	84	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP21356	N	IES-HV-EN	7	ETC21356	84	12	SPACE	14	14	Y	NONE	RECP			N	112
ZRP21465	N	IES-INSTR-CLEAR-STATUS	7	ETC21465	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP21467	N	IES-INSTR-PROG-MODE	7	ETC21467	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP21468	N	IES-INSTR-RESET	7	ETC21468	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP21469	N	IES-INSTR-WATCHDOG-CTL	7	ETC21469	84	12	SPACE	16	16	N	NONE	RECP			N	128
ZRP21581	N	IES-MEM-COPY	7	ETC21581	84	12	SPACE	24	24	N	NONE	RECP			N	176
ZRP21582	N	IES-MEM-GO	7	ETC21582	84	12	SPACE	16	16	N	NONE	RECP			N	128
ZRP21583	N	IES-MEM-WRITE	7	ETC21583	84	12	SPACE	20	20	N	NONE	RECP			N	160

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	MINLENGTH	MAXLENGTH	AUTHORISATION	COMPRESSION	ACKTYPE	RED_PCK	NOTE	EARRANGED	CALCSIZE
ZRP21696	N	IES-SAFETY-AMB-SET	7	ETC21696	84	12	SPACE	20	20	N	NONE	RECP			N	160
ZRP21697	N	IES-SAFETY-THRESH-ELC	7	ETC21697	84	12	SPACE	20	20	N	NONE	RECP			N	160
ZRP21698	N	IES-SAFETY-THRESH-ION	7	ETC21698	84	12	SPACE	20	20	N	NONE	RECP			N	160
ZRP217B2	N	IES-STIM-ELC-ADJ	7	ETC217B2	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP217B3	N	IES-STIM-ELC-EN	7	ETC217B3	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP217B4	N	IES-STIM-ION-ADJ	7	ETC217B4	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP217B5	N	IES-STIM-ION-EN	7	ETC217B5	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP219E4	N	IES-SEQ-END	7	ETC219E4	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP219E5	N	IES-SEQ-END-ALL	7	ETC219E5	84	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP219E6	N	IES-SEQ-TRIGGER	7	ETC219E6	84	12	SPACE	16	16	N	NONE	RECP			N	128
ZRP22001	N	MCP 28V Switch	7	ETC22001	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22002	N	Opto 28V Switch	7	ETC22002	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22003	N	Main 28 V switch	7	ETC22003	85	12	SPACE	14	14	Y	NONE	BOTH		*	N	112
ZRP22004	N	Pacc HV switch	7	ETC22004	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22005	N	Grid LV switch	7	ETC22005	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22006	N	Entr HV switch	7	ETC22006	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22007	N	Defl LV switch	7	ETC22007	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22008	N	Defl HV switch	7	ETC22008	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22009	N	Direct cmd. switch	7	ETC22009	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22010	N	WD enable/disable	7	ETC22010	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22011	N	GAS enable/disable	7	ETC22011	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22012	N	Thruster enable/disable	7	ETC22012	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22014	N	Compression switch	7	ETC22014	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22015	N	Alt.pacc. switch	7	ETC22015	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22016	N	Pacc. Level	7	ETC22016	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22017	N	Auto.red. switch	7	ETC22017	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22025	N	Next cmd. direct	7	ETC22025	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22026	N	Deflection step	7	ETC22026	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22027	N	Entrance step	7	ETC22027	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22028	N	Release V-cal format	7	ETC22028	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22035	N	Test WD reset	7	ETC22035	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22036	N	Empty Fifo	7	ETC22036	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22037	N	Flush Fifo	7	ETC22037	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22038	N	Boot PROM	7	ETC22038	85	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP22039	N	Imager test	7	ETC22039	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22040	N	Dummy cmd	7	ETC22040	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22111	N	Boot EEP incl. context	7	ETC22111	85	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP22112	N	Test pattern	7	ETC22112	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22113	N	Boot EEP excl. context	7	ETC22113	85	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP22114	N	RPC Internal SID nr	7	ETC22114	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22115	N	Default boot sectio	7	ETC22115	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22201	N	Deflection level	7	ETC22201	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22202	N	Entrance level	7	ETC22202	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22203	N	SW start level	7	ETC22203	85	12	SPACE	14	14	N	NONE	BOTH			N	112

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	MINLENGTH	MAXLENGTH	AUTHORISATION	COMPRESSION	ACKTYPE	RED_PCK	NOTE	EARRANGED	CALCSIZE
ZRP22204	N	GAS pressure low	7	ETC22204	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22205	N	GAS pressure high	7	ETC22205	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22210	N	Mode	7	ETC22210	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22212	N	Reprog. all EEP sections	7	ETC22212	85	12	SPACE	16	16	N	NONE	BOTH			N	128
ZRP22213	N	Reprog. EEP section	7	ETC22213	85	12	SPACE	16	16	N	NONE	BOTH			N	128
ZRP22301	N	Opto reference	7	ETC22301	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22302	N	Mcp reference	7	ETC22302	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22303	N	Grid reference	7	ETC22303	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22304	N	Pacc low ref.	7	ETC22304	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22305	N	Pacc high ref.	7	ETC22305	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22306	N	Deflection LV ref.	7	ETC22306	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22307	N	Deflection HV ref.	7	ETC22307	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22308	N	Entrance ref.	7	ETC22308	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22309	N	Noise reduction	7	ETC22309	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22310	N	Fifo low mark	7	ETC22310	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22311	N	Fifo high mark	7	ETC22311	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22312	N	Fifo force mark	7	ETC22312	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22313	N	Fifo clear mark	7	ETC22313	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP22315	N	Start cmd.	7	ETC22315	85	12	SPACE	14	14	N	NONE	BOTH			N	112
ZRP23001	N	Dummy Command	7	ETC23001	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23002	N	Set Telemetry Rate	7	ETC23002	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23004	N	Start Sampling	7	ETC23004	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23005	N	Stop Sampling	7	ETC23005	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23006	N	Execute Macro	7	ETC23006	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23007	N	Dog Prom	7	ETC23007	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23008	N	Set Macro	7	ETC23008	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23009	N	Read/Write Macro	7	ETC23009	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23010	N	Set Relays & Muxes	7	ETC23010	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23011	N	ADC Control Register	7	ETC23011	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23012	N	Denisty Sweep	7	ETC23012	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23013	N	Denisty Fix Bias	7	ETC23013	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23014	N	E Fix Bias	7	ETC23014	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23015	N	IO Poke	7	ETC23015	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23016	N	LDL Mode	7	ETC23016	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23018	N	Peek	7	ETC23018	86	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP23019	N	Poke	7	ETC23019	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23020	N	Flash Peek	7	ETC23020	86	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP23022	N	Prog Peek	7	ETC23022	86	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP23023	N	EE Boot	7	ETC23023	86	12	SPACE	18	18	N	NONE	RECP			N	144
ZRP23025	N	End Macro	7	ETC23025	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23026	N	Resampling	7	ETC23026	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23027	N	Set Filter	7	ETC23027	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23028	N	Set Moving Avrg & ADC Params	7	ETC23028	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP23029	N	Reset Actel	7	ETC23029	86	12	SPACE	18	18	N	NONE	BOTH			N	144

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	MINLENGTH	MAXLENGTH	AUTHORISATION	COMPRESSION	ACKTYPE	RED_PCK	NOTE	EARRANGED	CALCSIZE
ZRP23030	N	Transmitter	7	ETC23030	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230C9	N	MACRO: Dummy Command	7	ETC230C9	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230D0	N	MACRO: Set Telemetry Rate	7	ETC230D0	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230D2	N	MACRO: Start Sampling	7	ETC230D2	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230D3	N	MACRO: Stop Sampling	7	ETC230D3	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230D4	N	MACRO: Execute Macro	7	ETC230D4	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230D5	N	MACRO: Dog Prom	7	ETC230D5	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230D6	N	MACRO: Set Macro	7	ETC230D6	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230D7	N	MACRO: Read/Write Macro	7	ETC230D7	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230D8	N	MACRO: Set Relays & Muxes	7	ETC230D8	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230D9	N	MACRO: ADC Control Register	7	ETC230D9	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230E0	N	MACRO: Denisty Sweep	7	ETC230E0	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230E1	N	MACRO: Denisty Fix Bias	7	ETC230E1	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230E2	N	MACRO: E Fix Bias	7	ETC230E2	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230E3	N	MACRO: IO Poke	7	ETC230E3	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230E4	N	MACRO: LDL Mode	7	ETC230E4	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230E6	N	MACRO: Peek	7	ETC230E6	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230E7	N	MACRO: Poke	7	ETC230E7	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230E8	N	MACRO: Flash Peek	7	ETC230E8	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230F0	N	MACRO: Prog Peek	7	ETC230F0	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230F1	N	MACRO: EE Boot	7	ETC230F1	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230F3	N	MACRO: End Macro	7	ETC230F3	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230F4	N	MACRO: Resampling	7	ETC230F4	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230F5	N	MACRO: Set Filter	7	ETC230F5	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230F6	N	MACRO: Set Moving Avrg & ADC Params	7	ETC230F6	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230F7	N	MACRO: Reset Actel	7	ETC230F7	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230F8	N	MACRO: Transmitter	7	ETC230F8	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230H6	N	MACRO: AQP Hold	7	ETC230H6	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230H7	N	MACRO: Goto	7	ETC230H7	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230H8	N	MACRO: Sample Hold	7	ETC230H8	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230H9	N	MACRO: Fillout Buffer	7	ETC230H9	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230J0	N	MACRO: FullOut Buffer	7	ETC230J0	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230J1	N	MACRO: A 20 Moving (& Grooving) Avrg	7	ETC230J1	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230J2	N	MACRO: Set Start Header	7	ETC230J2	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230J3	N	MACRO: Set Subheader	7	ETC230J3	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230J4	N	MACRO: Do FFT	7	ETC230J4	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP230J6	N	MACRO: Set Parameters	7	ETC230J6	86	12	SPACE	18	18	N	NONE	BOTH			N	144
ZRP24001	N	Ld_Cfg	7	ETC24001	87	12	SPACE	20	20	N	NONE	RECP			N	160
ZRP24002	N	Ld_CCfg	7	ETC24002	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24101	N	Set_Fq1	7	ETC24101	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24102	N	Set_Fq2	7	ETC24102	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24103	N	Set_Fq3	7	ETC24103	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24201	N	Set_Lvl	7	ETC24201	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24202	N	Set_Oswp	7	ETC24202	87	12	SPACE	14	14	N	NONE	RECP			N	112

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ZRP24203	N	Set_Eswp	7	ETC24203	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24204	N	Set_Thr	7	ETC24204	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24301	N	Set_SwpB	7	ETC24301	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24302	N	Set_SurB	7	ETC24302	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24303	N	Set_Pres	7	ETC24303	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24304	N	Set_AuLp	7	ETC24304	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24401	N	Set_Wd	7	ETC24401	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24402	N	Set_SqNb	7	ETC24402	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24403	N	Set_LDLT	7	ETC24403	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24404	N	Set_Mode	7	ETC24404	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP24405	N	Set_TmRt	7	ETC24405	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP25001	N	Select Outboard	7	ETC25001	88	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP25002	N	Select Inboard	7	ETC25002	88	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP25101	N	Select RPC Internal SID 1	7	ETC25101	88	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP25102	N	Select RPC Internal SID 2	7	ETC25102	88	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP25103	N	Select RPC Internal SID 3	7	ETC25103	88	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP25104	N	Select RPC Internal SID 4	7	ETC25104	88	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP25105	N	Select RPC Internal SID 5	7	ETC25105	88	12	SPACE	12	12	N	NONE	RECP			N	96
ZRP25106	N	Select RPC Internal SID 6	7	ETC25106	88	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP25501	N	Reset TM Output Buffer	7	ETC25501	83	12	SPACE	12	12	N	NONE	NONE			N	96
ZRP30305	N	Enable LAP HK	7	ETC00305HKEN	86	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP30306	N	Disable LAP HK	7	ETC00306HKDS	86	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP30602	N	LAP Memory Load	7	ETC00602MMLD	86	12	SPACE	22	248	Y	NONE	BOTH			N	1984
ZRP30605	N	LAP Memory Dump Request	7	ETC00605MMDP	86	12	SPACE	20	20	Y	NONE	RECP			N	160
ZRP30609	N	LAP Memory Check	7	ETC00609MMCK	86	12	SPACE	20	20	Y	NONE	RECP			N	160
ZRP32001	N	Enable LAP Science	7	ETC02001SDEN	86	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP32002	N	Disable LAP Science	7	ETC02002SDDS	86	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP40305	N	Enable MIP HK	7	ETC00305HKEN	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP40306	N	Disable MIP HK	7	ETC00306HKDS	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP42001	N	Enable MIP Science	7	ETC02001SDEN	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP42002	N	Disable MIP Science	7	ETC02002SDDS	87	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP50305	N	Enable MAG HK	7	ETC00305HKEN	88	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP50306	N	Disable MAG HK	7	ETC00306HKDS	88	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP52001	N	Enable MAG Science	7	ETC02001SDEN	88	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP52002	N	Disable MAG Science	7	ETC02002SDDS	88	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP62001	N	Enable ICA Science	7	ETC02001SDEN	85	12	SPACE	14	14	N	NONE	RECP			N	112
ZRP62002	N	Disable ICA Science	7	ETC02002SDDS	85	12	SPACE	14	14	N	NONE	RECP			N	112
ZRPH1000	N	RPC_HPC_RTU-P/L-A	7	ETC00201D0OO	1	12	SPACE	18	18	N	NONE	BOTH	ZRPH2000	**	N	144
ZRPH2000	N	RPC_HPC_RTU-P/L-B	7	ETC00201D0OO	1	12	SPACE	18	18	N	NONE	BOTH	ZRPH1000	**	N	144

* If HV enabled get authorisation from an experiment representative

** HPC 3 - This TC is of fixed length. Do not change the parameter N in the first Block. The structure is designed for use of one HPC only.

6.1.2 C_TCPCK_ELT

TCPK_NAME	TCPE_ORDER	ELTTYPE	ITEMOFFSET	TCPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TCPA_NAME
ZRP00201	1	PARAM	16	32	1	32			PRPG6200
ZRP00201	0	PARAM	0	16	1	16			PRPG6100
ZRP00305	0	PARAM	0	16	1	16			PRPG7100
ZRP00306	0	PARAM	0	16	1	16			PRPG7100
ZRP00602	0	PARAM	0	16	1	16			PRPG8100
ZRP00602	1	PARAM	16	32	1	32			PRPG8200
ZRP00602	2	PARAM	48	16	1	16			PRPG8300
ZRP00602	3	PARAM	64	16	114	16			PRPG8400
ZRP00605	0	PARAM	0	16	1	16			PRPG8100
ZRP00605	1	PARAM	16	32	1	32			PRPG8200
ZRP00605	2	PARAM	48	16	1	16			PRPG8300
ZRP00609	0	PARAM	0	16	1	16			PRPG8100
ZRP00609	1	PARAM	16	32	1	32			PRPG8200
ZRP00609	2	PARAM	48	16	1	16			PRPG8300
ZRP00901	0	PARAM	0	48	1	48			PRPG9100
ZRP10305	0	PARAM	0	16	1	16			PRPG7100
ZRP10306	0	PARAM	0	16	1	16			PRPG7100
ZRP10602	0	PARAM	0	16	1	16			PRPG8100
ZRP10602	1	PARAM	16	32	1	32			PRPG8200
ZRP10602	2	PARAM	48	16	1	16			PRPG8300
ZRP10602	3	PARAM	64	16	114	16			PRPG8400
ZRP10605	1	PARAM	16	32	1	32			PRPG8200
ZRP10605	2	PARAM	48	16	1	16			PRPG8300
ZRP10605	0	PARAM	0	16	1	16			PRPG8100
ZRP10609	1	PARAM	16	32	1	32			PRPG8200
ZRP10609	2	PARAM	48	16	1	16			PRPG8300
ZRP10609	0	PARAM	0	16	1	16			PRPG8100
ZRP12001	0	PARAM	0	16	1	16			PRPGA100
ZRP12002	0	PARAM	0	16	1	16			PRPGA100
ZRP19201	0	PARAM	0	16	1	16			PRPG0001
ZRP19202	0	PARAM	0	16	1	16			PRPG0002
ZRP19203	0	PARAM	0	16	1	16			PRPG0003
ZRP19204	0	PARAM	0	16	1	16			PRPG0004
ZRP19205	0	PARAM	0	16	1	16			PRPG0005
ZRP19404	0	PARAM	0	16	1	16			PRPG0012
ZRP19407	0	PARAM	0	32	1	32			PRPG0013
ZRP19408	0	PARAM	0	16	1	16			PRPG0014
ZRP19408	1	PARAM	16	16	1	16			PRPG0015
ZRP19410	0	PARAM	0	16	1	16			PRPG0016
ZRP19411	0	PARAM	0	16	1	16			PRPG0017
ZRP19501	0	PARAM	0	16	1	16			PRPG0007
ZRP19502	0	PARAM	0	16	1	16			PRPG0008
ZRP19503	0	PARAM	0	16	1	16			PRPG0009
ZRP19504	0	PARAM	0	16	1	16			PRPG0010
ZRP19505	0	PARAM	0	16	1	16			PRPG0011
ZRP19601	0	BLOCK	0	48	1	48	XRPC003	PKBC	
ZRP19602	0	BLOCK	0	48	1	48	XRPC003	PKBC	
ZRP19603	0	BLOCK	0	48	1	48	XRPC003	PKBC	
ZRP19604	0	BLOCK	0	48	1	48	XRPC003	PKBC	
ZRP19605	0	BLOCK	0	48	1	48	XRPC003	PKBC	
ZRP20305	0	PARAM	0	16	1	16			PRPG7100
ZRP20306	0	PARAM	0	16	1	16			PRPG7100
ZRP20602	2	PARAM	48	16	1	16			PRPG8300
ZRP20602	3	PARAM	64	16	114	16			PRPG8400
ZRP20602	1	PARAM	16	32	1	32			PRPG8200
ZRP20602	0	PARAM	0	16	1	16			PRPG8100
ZRP20605	1	PARAM	16	32	1	32			PRPG8200
ZRP20605	2	PARAM	48	16	1	16			PRPG8300
ZRP20605	0	PARAM	0	16	1	16			PRPG8100
ZRP20609	0	PARAM	0	16	1	16			PRPG8100
ZRP20609	1	PARAM	16	32	1	32			PRPG8200
ZRP20609	2	PARAM	48	16	1	16			PRPG8300
ZRP21001	0	PARAM	0	16	1	16			PRPG1010
ZRP21116	0	PARAM	0	16	1	16			PRPG1100
ZRP21117	0	PARAM	0	16	1	16			PRPG1120
ZRP21119	0	PARAM	0	16	1	16			PRPG1130
ZRP21348	0	BLOCK	0	32	1	32	XRPC1301	PKBC	
ZRP21349	0	PARAM	0	16	1	16			PRPG1310
ZRP21350	0	BLOCK	0	32	1	32	XRPC1321	PKBC	
ZRP21351	0	PARAM	0	16	1	16			PRPG1330
ZRP21352	0	BLOCK	0	32	1	32	XRPC1341	PKBC	
ZRP21353	0	PARAM	0	16	1	16			PRPG1350
ZRP21354	0	BLOCK	0	32	1	32	XRPC1361	PKBC	

TCPK_NAME	TCPE_ORDER	ELTTYPE	ITEMOFFSET	TCPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TCPA_NAME
ZRP21355	0	PARAM	0	16	1	16			PRPG1370
ZRP21356	0	PARAM	0	16	1	16			PRPG1380
ZRP21465	0	PARAM	0	16	1	16			PRPG1410
ZRP21467	0	PARAM	0	16	1	16			PRPG1430
ZRP21468	0	PARAM	0	16	1	16			PRPG1440
ZRP21469	0	BLOCK	0	32	1	32	XRPC1451	PKBC	
ZRP21581	0	BLOCK	0	80	1	80	XRPC1511	PKBC	
ZRP21582	0	BLOCK	0	32	1	32	XRPC1521	PKBC	
ZRP21583	0	BLOCK	0	64	1	64	XRPC1531	PKBC	
ZRP21696	0	BLOCK	0	64	1	64	XRPC1601	PKBC	
ZRP21697	0	BLOCK	0	64	1	64	XRPC1611	PKBC	
ZRP21698	0	BLOCK	0	64	1	64	XRPC1621	PKBC	
ZRP217B2	0	PARAM	0	16	1	16			PRPG1700
ZRP217B3	0	PARAM	0	16	1	16			PRPG1710
ZRP217B4	0	PARAM	0	16	1	16			PRPG1720
ZRP217B5	0	PARAM	0	16	1	16			PRPG1730
ZRP219E4	0	PARAM	0	16	1	16			PRPG1900
ZRP219E5	0	PARAM	0	16	1	16			PRPG1910
ZRP219E6	0	BLOCK	0	32	1	32	XRPC1921	PKBC	
ZRP22001	0	PARAM	0	16	1	16			PRPG2001
ZRP22002	0	PARAM	0	16	1	16			PRPG2002
ZRP22003	0	PARAM	0	16	1	16			PRPG2003
ZRP22004	0	PARAM	0	16	1	16			PRPG2004
ZRP22005	0	PARAM	0	16	1	16			PRPG2005
ZRP22006	0	PARAM	0	16	1	16			PRPG2006
ZRP22007	0	PARAM	0	16	1	16			PRPG2007
ZRP22008	0	PARAM	0	16	1	16			PRPG2008
ZRP22009	0	PARAM	0	16	1	16			PRPG2009
ZRP22010	0	PARAM	0	16	1	16			PRPG2010
ZRP22011	0	PARAM	0	16	1	16			PRPG2011
ZRP22012	0	PARAM	0	16	1	16			PRPG2012
ZRP22014	0	PARAM	0	16	1	16			PRPG2014
ZRP22015	0	PARAM	0	16	1	16			PRPG2015
ZRP22016	0	PARAM	0	16	1	16			PRPG2016
ZRP22017	0	PARAM	0	16	1	16			PRPG2017
ZRP22025	0	PARAM	0	16	1	16			PRPG2025
ZRP22026	0	PARAM	0	16	1	16			PRPG2026
ZRP22027	0	PARAM	0	16	1	16			PRPG2027
ZRP22028	0	PARAM	0	16	1	16			PRPG2028
ZRP22035	0	PARAM	0	16	1	16			PRPG2035
ZRP22036	0	PARAM	0	16	1	16			PRPG2036
ZRP22037	0	PARAM	0	16	1	16			PRPG2037
ZRP22038	0	PARAM	0	16	1	16			PRPG2038
ZRP22039	0	PARAM	0	16	1	16			PRPG2039
ZRP22040	0	PARAM	0	16	1	16			PRPG2040
ZRP22111	0	PARAM	0	16	1	16			PRPG2111
ZRP22112	0	PARAM	0	16	1	16			PRPG2112
ZRP22113	0	PARAM	0	16	1	16			PRPG2113
ZRP22114	0	PARAM	0	16	1	16			PRPG2114
ZRP22115	0	PARAM	0	16	1	16			PRPG2115
ZRP22201	0	PARAM	0	16	1	16			PRPG2201
ZRP22202	0	PARAM	0	16	1	16			PRPG2202
ZRP22203	0	PARAM	0	16	1	16			PRPG2203
ZRP22204	0	PARAM	0	16	1	16			PRPG2204
ZRP22205	0	PARAM	0	16	1	16			PRPG2205
ZRP22210	0	PARAM	0	16	1	16			PRPG2210
ZRP22212	0	BLOCK	0	32	1	32	XRPC2012	PKBC	
ZRP22213	0	BLOCK	0	32	1	32	XRPC2013	PKBC	
ZRP22301	0	PARAM	0	16	1	16			PRPG2301
ZRP22302	0	PARAM	0	16	1	16			PRPG2302
ZRP22303	0	PARAM	0	16	1	16			PRPG2303
ZRP22304	0	PARAM	0	16	1	16			PRPG2304
ZRP22305	0	PARAM	0	16	1	16			PRPG2305
ZRP22306	0	PARAM	0	16	1	16			PRPG2306
ZRP22307	0	PARAM	0	16	1	16			PRPG2307
ZRP22308	0	PARAM	0	16	1	16			PRPG2308
ZRP22309	0	PARAM	0	16	1	16			PRPG2309
ZRP22310	0	PARAM	0	16	1	16			PRPG2310
ZRP22311	0	PARAM	0	16	1	16			PRPG2311
ZRP22312	0	PARAM	0	16	1	16			PRPG2312
ZRP22313	0	PARAM	0	16	1	16			PRPG2313
ZRP22315	0	PARAM	0	16	1	16			PRPG2315
ZRP23001	0	PARAM	0	48	1	48			PRPG3000
ZRP23002	0	PARAM	0	48	1	48			PRPG3004
ZRP23004	0	PARAM	0	48	1	48			PRPG3008
ZRP23005	0	PARAM	0	48	1	48			PRPG3012
ZRP23006	0	PARAM	0	48	1	48			PRPG3016
ZRP23007	0	PARAM	0	48	1	48			PRPG3020
ZRP23008	0	PARAM	0	48	1	48			PRPG3024

TCPK_NAME	TCPE_ORDER	ELTTYPE	ITEMOFFSET	TCPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TCPA_NAME
ZRP23009	0	PARAM	0	48	1	48			PRPG3028
ZRP23010	0	PARAM	0	48	1	48			PRPG3032
ZRP23011	0	PARAM	0	48	1	48			PRPG3036
ZRP23012	0	PARAM	0	48	1	48			PRPG3040
ZRP23013	0	PARAM	0	48	1	48			PRPG3044
ZRP23014	0	PARAM	0	48	1	48			PRPG3048
ZRP23015	0	PARAM	0	48	1	48			PRPG3052
ZRP23016	0	PARAM	0	48	1	48			PRPG3056
ZRP23018	0	PARAM	0	48	1	48			PRPG3060
ZRP23019	0	PARAM	0	48	1	48			PRPG3064
ZRP23020	0	PARAM	0	48	1	48			PRPG3068
ZRP23022	0	PARAM	0	48	1	48			PRPG3072
ZRP23023	0	PARAM	0	48	1	48			PRPG3076
ZRP23025	0	PARAM	0	48	1	48			PRPG3080
ZRP23026	0	PARAM	0	48	1	48			PRPG3084
ZRP23027	0	PARAM	0	48	1	48			PRPG3088
ZRP23028	0	PARAM	0	48	1	48			PRPG3092
ZRP23029	0	PARAM	0	48	1	48			PRPG3096
ZRP23030	0	PARAM	0	48	1	48			PRPG3100
ZRP230C9	0	PARAM	0	48	1	48			PRPG3104
ZRP230D0	0	PARAM	0	48	1	48			PRPG3108
ZRP230D2	0	PARAM	0	48	1	48			PRPG3112
ZRP230D3	0	PARAM	0	48	1	48			PRPG3116
ZRP230D4	0	PARAM	0	48	1	48			PRPG3120
ZRP230D5	0	PARAM	0	48	1	48			PRPG3124
ZRP230D6	0	PARAM	0	48	1	48			PRPG3128
ZRP230D7	0	PARAM	0	48	1	48			PRPG3132
ZRP230D8	0	PARAM	0	48	1	48			PRPG3136
ZRP230D9	0	PARAM	0	48	1	48			PRPG3140
ZRP230E0	0	PARAM	0	48	1	48			PRPG3144
ZRP230E1	0	PARAM	0	48	1	48			PRPG3148
ZRP230E2	0	PARAM	0	48	1	48			PRPG3152
ZRP230E3	0	PARAM	0	48	1	48			PRPG3156
ZRP230E4	0	PARAM	0	48	1	48			PRPG3160
ZRP230E6	0	PARAM	0	48	1	48			PRPG3164
ZRP230E7	0	PARAM	0	48	1	48			PRPG3168
ZRP230E8	0	PARAM	0	48	1	48			PRPG3172
ZRP230F0	0	PARAM	0	48	1	48			PRPG3176
ZRP230F1	0	PARAM	0	48	1	48			PRPG3180
ZRP230F3	0	PARAM	0	48	1	48			PRPG3184
ZRP230F4	0	PARAM	0	48	1	48			PRPG3188
ZRP230F5	0	PARAM	0	48	1	48			PRPG3192
ZRP230F6	0	PARAM	0	48	1	48			PRPG3196
ZRP230F7	0	PARAM	0	48	1	48			PRPG3200
ZRP230F8	0	PARAM	0	48	1	48			PRPG3204
ZRP230H6	0	PARAM	0	48	1	48			PRPG3208
ZRP230H7	0	PARAM	0	48	1	48			PRPG3212
ZRP230H8	0	PARAM	0	48	1	48			PRPG3216
ZRP230H9	0	PARAM	0	48	1	48			PRPG3220
ZRP230J0	0	PARAM	0	48	1	48			PRPG3224
ZRP230J1	0	PARAM	0	48	1	48			PRPG3228
ZRP230J2	0	PARAM	0	48	1	48			PRPG3232
ZRP230J3	0	PARAM	0	48	1	48			PRPG3236
ZRP230J4	0	PARAM	0	48	1	48			PRPG3240
ZRP230J6	0	PARAM	0	48	1	48			PRPG3244
ZRP24001	1	PARAM	16	48	1	48			PRPG4001
ZRP24001	0	PARAM	0	16	1	16			PRPG4000
ZRP24002	0	PARAM	0	16	1	16			PRPG4000
ZRP24101	0	PARAM	0	16	1	16			PRPG4002
ZRP24102	0	PARAM	0	16	1	16			PRPG4003
ZRP24103	0	PARAM	0	16	1	16			PRPG4004
ZRP24201	0	PARAM	0	16	1	16			PRPG4005
ZRP24202	0	PARAM	0	16	1	16			PRPG4006
ZRP24203	0	PARAM	0	16	1	16			PRPG4007
ZRP24204	0	PARAM	0	16	1	16			PRPG4008
ZRP24301	0	PARAM	0	16	1	16			PRPG4009
ZRP24302	0	PARAM	0	16	1	16			PRPG4010
ZRP24303	0	PARAM	0	16	1	16			PRPG4011
ZRP24304	0	PARAM	0	16	1	16			PRPG4012
ZRP24401	0	PARAM	0	16	1	16			PRPG4013
ZRP24402	0	PARAM	0	16	1	16			PRPG4014
ZRP24403	0	PARAM	0	16	1	16			PRPG4015
ZRP24404	0	PARAM	0	16	1	16			PRPG4016
ZRP24405	0	PARAM	0	16	1	16			PRPG4017
ZRP25106	0	PARAM	0	16	1	16			PRPG5001
ZRP30305	0	PARAM	0	16	1	16			PRPG7100
ZRP30306	0	PARAM	0	16	1	16			PRPG7100
ZRP30602	1	PARAM	16	32	1	32			PRPG8200
ZRP30602	2	PARAM	48	16	1	16			PRPG8300

TCPK_NAME	TCPE_ORDER	ELTTYPE	ITEMOFFSET	TCPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TCPA_NAME
ZRP30602	0	PARAM	0	16	1	16			PRPG8100
ZRP30602	3	PARAM	64	16	114	16			PRPG8400
ZRP30605	0	PARAM	0	16	1	16			PRPG8100
ZRP30605	1	PARAM	16	32	1	32			PRPG8200
ZRP30605	2	PARAM	48	16	1	16			PRPG8300
ZRP30609	2	PARAM	48	16	1	16			PRPG8300
ZRP30609	0	PARAM	0	16	1	16			PRPG8100
ZRP30609	1	PARAM	16	32	1	32			PRPG8200
ZRP32001	0	PARAM	0	16	1	16			PRPGA100
ZRP32002	0	PARAM	0	16	1	16			PRPGA100
ZRP40305	0	PARAM	0	16	1	16			PRPG7100
ZRP40306	0	PARAM	0	16	1	16			PRPG7100
ZRP42001	0	PARAM	0	16	1	16			PRPGA100
ZRP42002	0	PARAM	0	16	1	16			PRPGA100
ZRP50305	0	PARAM	0	16	1	16			PRPG7100
ZRP50306	0	PARAM	0	16	1	16			PRPG7100
ZRP52001	0	PARAM	0	16	1	16			PRPGA100
ZRP52002	0	PARAM	0	16	1	16			PRPGA100
ZRP62001	0	PARAM	0	16	1	16			PRPGA100
ZRP62002	0	PARAM	0	16	1	16			PRPGA100
ZRPH1000	0	BLOCK	0	40	1	40	XSBH1000	PKBC	
ZRPH1000	1	PARAM	40	8	1	8			FRPH1000
ZRPH2000	1	PARAM	40	8	1	8			FRPH2000
ZRPH2000	0	BLOCK	0	40	1	40	XSBH1000	PKBC	

6.1.3 C_TCPARAM

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAME	TCDP_START_BIT	ON_BOARD_SW
FRPH1000	TCGP	N	RPC_HPC		7	SDMRTUPSM000	3	4	8	NONE		UDMRTUPSM000			2	N			NONE
FRPH2000	TCGP	N	RPC_HPC		7	SDMRTUPSM000	3	4	8	NONE		UDMRTUPSM000			130	N			NONE
PRPD1010	TCDP	N	IES-COMM-RATE-MODE Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			1	Y	PRPG1010	0	NONE
PRPD1011	TCDP	N	IES-COMM-RATE-MODE Rate		7	SRPRPC00	2	8	8	DIG	CRPV1011	URPRPC00				Y	PRPG1010	8	NONE
PRPD1100	TCDP	N	IES-DATA-ACQ-EN Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			16	Y	PRPG1100	0	NONE
PRPD1101	TCDP	N	IES-DATA-ACQ-EN Ctl		7	SRPRPC00	2	8	8	DIG	CRPV0103	URPRPC00				Y	PRPG1100	8	NONE
PRPD1120	TCDP	N	IES-DATA-ACQ-TABLE Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			17	Y	PRPG1120	0	NONE
PRPD1121	TCDP	N	IES-DATA-ACQ-TABLE TabNo		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1120	8	NONE
PRPD1130	TCDP	N	IES-DATA-GENERATE-EN Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			19	Y	PRPG1130	0	NONE
PRPD1131	TCDP	N	IES-DATA-GENERATE-EN Ctl		7	SRPRPC00	2	8	8	DIG	CRPV0103	URPRPC00				Y	PRPG1130	8	NONE
PRPD1300	TCDP	N	IES-HV-DEF-ADJ Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			48	Y	PRPG1B06	0	NONE
PRPD1301	TCDP	N	IES-HV-DEF-ADJ Type		7	SRPRPC00	2	8	8	DIG	CRPV1301	URPRPC00				Y	PRPG1B06	8	NONE
PRPD1302	TCDP	N	IES-HV-DEF-ADJ Value		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B06	16	NONE
PRPD1310	TCDP	N	IES-HV-DEF-EN Opcode		7	SRPRPC00	3	4	8	NONE		URPRPC00			49	Y	PRPG1310	0	NONE
PRPD1311	TCDP	N	IES-HV-DEF-EN Ctl		7	SRPRPC00	2	8	8	DIG	CRPV0103	URPRPC00				Y	PRPG1310	8	NONE
PRPD1320	TCDP	N	IES-HV-ELC-MCP-ADJ Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			50	Y	PRPG1B07	0	NONE
PRPD1321	TCDP	N	IES-HV-ELC-MCP-ADJ Type		7	SRPRPC00	2	8	8	DIG	CRPV1321	URPRPC00				Y	PRPG1B07	8	NONE
PRPD1322	TCDP	N	IES-HV-ELC-MCP-ADJ Value		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B07	16	NONE
PRPD1330	TCDP	N	IES-HV-ELC-MCP-EN Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			51	Y	PRPG1330	0	NONE
PRPD1331	TCDP	N	IES-HV-ELC-MCP-EN Ctl		7	SRPRPC00	2	8	8	DIG	CRPV0103	URPRPC00				Y	PRPG1330	8	NONE
PRPD1340	TCDP	N	IES-HV-ESA-ADJ Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			52	Y	PRPG1B08	0	NONE
PRPD1341	TCDP	N	IES-HV-ESA-ADJ Type		7	SRPRPC00	2	8	8	DIG	CRPV1341	URPRPC00				Y	PRPG1B08	8	NONE
PRPD1342	TCDP	N	IES-HV-ESA-ADJ Value		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B08	16	NONE
PRPD1350	TCDP	N	IES-HV-ESA-EN Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			53	Y	PRPG1350	0	NONE
PRPD1351	TCDP	N	IES-HV-ESA-EN Ctl		7	SRPRPC00	2	8	8	DIG	CRPV0103	URPRPC00				Y	PRPG1350	8	NONE
PRPD1360	TCDP	N	IES-HV-ION-MCP-ADJ Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			54	Y	PRPG1B09	0	NONE
PRPD1361	TCDP	N	IES-HV-ION-MCP-ADJ Type		7	SRPRPC00	2	8	8	DIG	CRPV1361	URPRPC00				Y	PRPG1B09	8	NONE
PRPD1362	TCDP	N	IES-HV-ION-MCP-ADJ Value		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B09	16	NONE
PRPD1370	TCDP	N	IES-HV-ION-MCP-EN Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			55	Y	PRPG1370	0	NONE
PRPD1371	TCDP	N	IES-HV-ION-MCP-EN Ctl		7	SRPRPC00	2	8	8	DIG	CRPV0103	URPRPC00				Y	PRPG1370	8	NONE
PRPD1380	TCDP	N	IES-HV-EN Opcode		7	SRPRPC00	3	4	8	NONE		URPRPC00			56	Y	PRPG1380	0	NONE
PRPD1381	TCDP	N	IES-HV-EN Ctl		7	SRPRPC00	2	8	8	DIG	CRPV0103	URPRPC00				Y	PRPG1380	8	NONE
PRPD1410	TCDP	N	IES-INSTR-CLR-STATUS Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			65	Y	PRPG1410	0	NONE
PRPD1411	TCDP	N	IES-INSTR-CLR-STATUS Pad		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1410	8	NONE
PRPD1430	TCDP	N	IES-INSTR-PROG-MODE Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			67	Y	PRPG1430	0	NONE
PRPD1431	TCDP	N	IES-INSTR-PROG-MODE Mode		7	SRPRPC00	2	8	8	DIG	CRPV1431	URPRPC00				Y	PRPG1430	8	NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAM	TCDP_START_BIT	ON_BOARD_SW
PRPD1440	TCDP	N	IES-INSTR-RESET Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			68	Y	PRPG1440	0	NONE
PRPD1441	TCDP	N	IES-INSTR-RESET Pad		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1440	8	NONE
PRPD1450	TCDP	N	IES-INSTR-WDOG-CTL Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			69	Y	PRPG1B16	0	NONE
PRPD1451	TCDP	N	IES-INSTR-WDOG-CTL Cnter		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B16	8	NONE
PRPD1452	TCDP	N	IES-INSTR-WDOG-CTL Pad		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B16	24	NONE
PRPD1510	TCDP	N	IES-MEM-COPY Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			81	Y	PRPG1B23	0	NONE
PRPD1511	TCDP	N	IES-MEM-COPY SrcPage		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B23	8	NONE
PRPD1512	TCDP	N	IES-MEM-COPY SrcAddr		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B23	16	NONE
PRPD1513	TCDP	N	IES-MEM-COPY DstPage		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B23	32	NONE
PRPD1514	TCDP	N	IES-MEM-COPY DstAddr0		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B23	40	NONE
PRPD1515	TCDP	N	IES-MEM-COPY DstAddr1		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B24	0	NONE
PRPD1516	TCDP	N	IES-MEM-COPY NumWords		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B24	8	NONE
PRPD1517	TCDP	N	IES-MEM-COPY Pad		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B24	24	NONE
PRPD1520	TCDP	N	IES-MEM-GO Opcode		7	SRPRPC00	3	4	8	NONE		URPRPC00			82	Y	PRPG1B25	0	NONE
PRPD1521	TCDP	N	IES-MEM-GO Page		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B25	8	NONE
PRPD1522	TCDP	N	IES-MEM-GO Address		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B25	16	NONE
PRPD1530	TCDP	N	IES-MEM-WRITE Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			83	Y	PRPG1B26	0	NONE
PRPD1531	TCDP	N	IES-MEM-WRITE Page		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B26	8	NONE
PRPD1532	TCDP	N	IES-MEM-WRITE Addr		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B26	16	NONE
PRPD1533	TCDP	N	IES-MEM-WRITE Mask		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B26	32	NONE
PRPD1534	TCDP	N	IES-MEM-WRITE Data		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B27	0	NONE
PRPD1600	TCDP	N	IES-SAFETY-AMB Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			96	Y	PRPG1B28	0	NONE
PRPD1601	TCDP	N	IES-SAFETY-AMB Press		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B28	8	NONE
PRPD1602	TCDP	N	IES-SAFETY-AMB PressGrad		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B28	16	NONE
PRPD1603	TCDP	N	IES-SAFETY-AMB GiadaDust		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B28	24	NONE
PRPD1604	TCDP	N	IES-SAFETY-AMB Pad1		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B28	40	NONE
PRPD1605	TCDP	N	IES-SAFETY-AMB Pad2		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B29	0	NONE
PRPD1610	TCDP	N	IES-SAFETY-ELC Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			97	Y	PRPG1B30	0	NONE
PRPD1611	TCDP	N	IES-SAFETY-ELC Threshold		7	SRPRPC00	3	14	32	NONE		URPRPC00				Y	PRPG1B30	8	NONE
PRPD1612	TCDP	N	IES-SAFETY-ELC SampleSz		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B30	40	NONE
PRPD1613	TCDP	N	IES-SAFETY-ELC Exceeds		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B31	0	NONE
PRPD1614	TCDP	N	IES-SAFETY-ELC Pad		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B31	8	NONE
PRPD1620	TCDP	N	IES-SAFETY-ION Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			98	Y	PRPG1B32	0	NONE
PRPD1621	TCDP	N	IES-SAFETY-ION Threshold		7	SRPRPC00	3	14	32	NONE		URPRPC00				Y	PRPG1B32	8	NONE
PRPD1622	TCDP	N	IES-SAFETY-ION SampleSz		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B32	40	NONE
PRPD1623	TCDP	N	IES-SAFETY-ION Exceeds		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B33	0	NONE
PRPD1624	TCDP	N	IES-SAFETY-ION Pad		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B33	8	NONE
PRPD1700	TCDP	N	IES-STIM-ELC-ADJ Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			112	Y	PRPG1700	0	NONE
PRPD1701	TCDP	N	IES-STIM-ELC-ADJ StRate		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1700	8	NONE
PRPD1710	TCDP	N	IES-STIM-ELC-EN Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			113	Y	PRPG1710	0	NONE
PRPD1711	TCDP	N	IES-STIM-ELC-EN Ctl		7	SRPRPC00	2	8	8	DIG	CRPV0103	URPRPC00				Y	PRPG1710	8	NONE
PRPD1720	TCDP	N	IES-STIM-ION-ADJ Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			114	Y	PRPG1720	0	NONE
PRPD1721	TCDP	N	IES-STIM-ION-ADJ StRate		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1720	8	NONE
PRPD1730	TCDP	N	IES-STIM-ION-EN Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			115	Y	PRPG1730	0	NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAME	TCDP_START_BIT	ON_BOARD_SW
PRPD1731	TCDP	N	IES-STIM-ION-EN Ctl		7	SRPRPC00	2	8	8	DIG	CRPV0103	URPRPC00				Y	PRPG1730	8	NONE
PRPD1900	TCDP	N	IES-SEQ-END Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			144	Y	PRPG1900	0	NONE
PRPD1901	TCDP	N	IES-SEQ-END SeqNum		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1900	8	NONE
PRPD1910	TCDP	N	IES-SEQ-END-ALL Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			145	Y	PRPG1910	0	NONE
PRPD1911	TCDP	N	IES-SEQ-END-ALL Pad		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1910	8	NONE
PRPD1920	TCDP	N	IES-SEQ-TRIGGER Op		7	SRPRPC00	3	4	8	NONE		URPRPC00			146	Y	PRPG1B34	0	NONE
PRPD1921	TCDP	N	IES-SEQ-TRIGGER SeqNum		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG1B34	8	NONE
PRPD1922	TCDP	N	IES-SEQ-TRIGGER Cksum		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y	PRPG1B34	16	NONE
PRPD2501	TCDP	N	Sid nr.		7	SRPRPC00	2	3	3	NONE		URPRPC00			1	Y	PRPG2315	13	NONE
PRPD2502	TCDP	N	Mode		7	SRPRPC00	2	6	6	NONE		URPRPC00			8	Y	PRPG2315	7	NONE
PRPD2503	TCDP	N	HV on bit.		7	SRPRPC00	2	1	1	NONE		URPRPC00			1	Y	PRPG2315	6	NONE
PRPD2504	TCDP	N	Boot EEPROM		7	SRPRPC00	2	1	1	NONE		URPRPC00			0	Y	PRPG2315	5	NONE
PRPD2505	TCDP	N	Include Context		7	SRPRPC00	2	1	1	NONE		URPRPC00			0	Y	PRPG2315	4	NONE
PRPD2506	TCDP	N	Nibble 3		7	SRPRPC00	2	4	4	NONE		URPRPC00			15	Y	PRPG2315	0	NONE
PRPD2513	TCDP	N	Source section		7	SRPRPC00	2	4	4	NONE		URPRPC00			0	Y	PRPG2B13	12	NONE
PRPD2514	TCDP	N	Destination section		7	SRPRPC00	2	4	4	NONE		URPRPC00			0	Y	PRPG2B13	8	NONE
PRPD2515	TCDP	N	Nibble 3_2		7	SRPRPC00	2	8	8	NONE		URPRPC00			13	Y	PRPG2B13	0	NONE
PRPD3000	TCDP	N	Dummy Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h1	N	PRPG3000	0	NONE
PRPD3001	TCDP	N	Dummy param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3000	8	NONE
PRPD3002	TCDP	N	Dummy param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3000	16	NONE
PRPD3003	TCDP	N	Dummy param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3000	32	NONE
PRPD3004	TCDP	N	Set TM Rate Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h2	N	PRPG3004	0	NONE
PRPD3005	TCDP	N	Set TM Rate param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3004	8	NONE
PRPD3006	TCDP	N	Set TM Rate param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3004	16	NONE
PRPD3007	TCDP	N	Set TM Rate param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3004	32	NONE
PRPD3008	TCDP	N	Start Sampling_Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h4	N	PRPG3008	0	NONE
PRPD3009	TCDP	N	Start Sampling_param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3008	8	NONE
PRPD3010	TCDP	N	Start Sampling_param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3008	16	NONE
PRPD3011	TCDP	N	Start Sampling_param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3008	32	NONE
PRPD3012	TCDP	N	Stop Sampling Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h5	N	PRPG3012	0	NONE
PRPD3013	TCDP	N	Stop Sampling param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3012	8	NONE
PRPD3014	TCDP	N	Stop Sampling param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3012	16	NONE
PRPD3015	TCDP	N	Stop Sampling param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3012	32	NONE
PRPD3016	TCDP	N	Execute Macro Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h6	N	PRPG3016	0	NONE
PRPD3017	TCDP	N	Execute Macro param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3016	8	NONE
PRPD3018	TCDP	N	Execute Macro param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3016	16	NONE
PRPD3019	TCDP	N	Execute Macro param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3016	32	NONE
PRPD3020	TCDP	N	Dog Prom Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h7	N	PRPG3020	0	NONE
PRPD3021	TCDP	N	Dog Prom param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3020	8	NONE
PRPD3022	TCDP	N	Dog Prom param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3020	16	NONE
PRPD3023	TCDP	N	Dog Prom param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3020	32	NONE
PRPD3024	TCDP	N	Set Macro Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h8	N	PRPG3024	0	NONE
PRPD3025	TCDP	N	Set Macro param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3024	8	NONE
PRPD3026	TCDP	N	Set Macro param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3024	16	NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAM	TCDP_START_BIT	ON_BOARD_SW
PRPD3027	TCDP	N	Set Macro param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3024	32	NONE
PRPD3028	TCDP	N	Read/Write Macro Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h9	N	PRPG3028	0	NONE
PRPD3029	TCDP	N	Read/Write Macro Par 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3028	8	NONE
PRPD3030	TCDP	N	Read/Write Macro Par 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3028	16	NONE
PRPD3031	TCDP	N	Read/Write Macro Par 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3028	32	NONE
PRPD3032	TCDP	N	Set Relays & Mux Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hA	N	PRPG3032	0	NONE
PRPD3033	TCDP	N	Set Relays & Mux Par 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3032	8	NONE
PRPD3034	TCDP	N	Set Relays & Mux Par 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3032	16	NONE
PRPD3035	TCDP	N	Set Relays & Mux Par 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3032	32	NONE
PRPD3036	TCDP	N	ADC Control Reg Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hB	N	PRPG3036	0	NONE
PRPD3037	TCDP	N	ADC Control Reg Par 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3036	8	NONE
PRPD3038	TCDP	N	ADC Control Reg Par 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3036	16	NONE
PRPD3039	TCDP	N	ADC Control Reg Par 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3036	32	NONE
PRPD3040	TCDP	N	Denisty Sweep Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hC	N	PRPG3040	0	NONE
PRPD3041	TCDP	N	Denisty Sweep param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3040	8	NONE
PRPD3042	TCDP	N	Denisty Sweep param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3040	16	NONE
PRPD3043	TCDP	N	Denisty Sweep param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3040	32	NONE
PRPD3044	TCDP	N	Denisty Fix Bias Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hD	N	PRPG3044	0	NONE
PRPD3045	TCDP	N	Denisty Fix Bias param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3044	8	NONE
PRPD3046	TCDP	N	Denisty Fix Bias param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3044	16	NONE
PRPD3047	TCDP	N	Denisty Fix Bias param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3044	32	NONE
PRPD3048	TCDP	N	E Fix Bias Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hE	N	PRPG3048	0	NONE
PRPD3049	TCDP	N	E Fix Bias param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3048	8	NONE
PRPD3050	TCDP	N	E Fix Bias param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3048	16	NONE
PRPD3051	TCDP	N	E Fix Bias param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3048	32	NONE
PRPD3052	TCDP	N	IO Poke Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hF	N	PRPG3052	0	NONE
PRPD3053	TCDP	N	IO Poke param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3052	8	NONE
PRPD3054	TCDP	N	IO Poke param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3052	16	NONE
PRPD3055	TCDP	N	IO Poke param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3052	32	NONE
PRPD3056	TCDP	N	LDL Mode Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h10	N	PRPG3056	0	NONE
PRPD3057	TCDP	N	LDL Mode param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3056	8	NONE
PRPD3058	TCDP	N	LDL Mode param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3056	16	NONE
PRPD3059	TCDP	N	LDL Mode param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3056	32	NONE
PRPD3060	TCDP	N	Peek Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h12	N	PRPG3060	0	NONE
PRPD3061	TCDP	N	Peek param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3060	8	NONE
PRPD3062	TCDP	N	Peek param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3060	16	NONE
PRPD3063	TCDP	N	Peek param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3060	32	NONE
PRPD3064	TCDP	N	Poke Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h13	N	PRPG3064	0	NONE
PRPD3065	TCDP	N	Poke param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3064	8	NONE
PRPD3066	TCDP	N	Poke param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3064	16	NONE
PRPD3067	TCDP	N	Poke param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3064	32	NONE
PRPD3068	TCDP	N	Flash Peek Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h14	N	PRPG3068	0	NONE
PRPD3069	TCDP	N	Flash Peek param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3068	8	NONE
PRPD3070	TCDP	N	Flash Peek param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3068	16	NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAM	TCDP_START_BIT	ON_BOARD_SW
PRPD3071	TCDP	N	Flash Peek param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3068	32	NONE
PRPD3072	TCDP	N	Prog Peek Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h16	N	PRPG3072	0	NONE
PRPD3073	TCDP	N	Prog Peek param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3072	8	NONE
PRPD3074	TCDP	N	Prog Peek param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3072	16	NONE
PRPD3075	TCDP	N	Prog Peek param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3072	32	NONE
PRPD3076	TCDP	N	EE Boot Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h17	N	PRPG3076	0	NONE
PRPD3077	TCDP	N	EE Boot param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3076	8	NONE
PRPD3078	TCDP	N	EE Boot param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3076	16	NONE
PRPD3079	TCDP	N	EE Boot param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3076	32	NONE
PRPD3080	TCDP	N	End Macro Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h19	N	PRPG3080	0	NONE
PRPD3081	TCDP	N	End Macro param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3080	8	NONE
PRPD3082	TCDP	N	End Macro param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3080	16	NONE
PRPD3083	TCDP	N	End Macro param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3080	32	NONE
PRPD3084	TCDP	N	Resampling Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h1A	N	PRPG3084	0	NONE
PRPD3085	TCDP	N	Resampling param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3084	8	NONE
PRPD3086	TCDP	N	Resampling param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3084	16	NONE
PRPD3087	TCDP	N	Resampling param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3084	32	NONE
PRPD3088	TCDP	N	Set Filter Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h1B	N	PRPG3088	0	NONE
PRPD3089	TCDP	N	Set Filter param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3088	8	NONE
PRPD3090	TCDP	N	Set Filter param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3088	16	NONE
PRPD3091	TCDP	N	Set Filter param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3088	32	NONE
PRPD3092	TCDP	N	Set Mvg Avrg/ADC Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h1C	N	PRPG3092	0	NONE
PRPD3093	TCDP	N	Set Mvg Avrg/ADC Par 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3092	8	NONE
PRPD3094	TCDP	N	Set Mvg Avrg/ADC Par 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3092	16	NONE
PRPD3095	TCDP	N	Set Mvg Avrg/ADC Par 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3092	32	NONE
PRPD3096	TCDP	N	Reset Actel Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h1D	N	PRPG3096	0	NONE
PRPD3097	TCDP	N	Reset Actel param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3096	8	NONE
PRPD3098	TCDP	N	Reset Actel param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3096	16	NONE
PRPD3099	TCDP	N	Reset Actel param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3096	32	NONE
PRPD3100	TCDP	N	Transmitter Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h1E	N	PRPG3100	0	NONE
PRPD3101	TCDP	N	Transmitter param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3100	8	NONE
PRPD3102	TCDP	N	Transmitter param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3100	16	NONE
PRPD3103	TCDP	N	Transmitter param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3100	32	NONE
PRPD3104	TCDP	N	M-Dummy Command Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h81	N	PRPG3104	0	NONE
PRPD3105	TCDP	N	M-Dummy Command param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3104	8	NONE
PRPD3106	TCDP	N	M-Dummy Command param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3104	16	NONE
PRPD3107	TCDP	N	M-Dummy Command param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3104	32	NONE
PRPD3108	TCDP	N	M-Set TM Rate Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h82	N	PRPG3108	0	NONE
PRPD3109	TCDP	N	M-Set TM Rate param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3108	8	NONE
PRPD3110	TCDP	N	M-Set TM Rate param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3108	16	NONE
PRPD3111	TCDP	N	M-Set TM Rate param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3108	32	NONE
PRPD3112	TCDP	N	M-Start Sampling Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h84	N	PRPG3112	0	NONE
PRPD3113	TCDP	N	M-Start Sampling Par 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3112	8	NONE
PRPD3114	TCDP	N	M-Start Sampling Par 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3112	16	NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAME	TCDP_START_BIT	ON_BOARD_SW
PRPD3115	TCDP	N	M-Start Sampling Par 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3112	32	NONE
PRPD3116	TCDP	N	M-Stop Sampling Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h85	N	PRPG3116	0	NONE
PRPD3117	TCDP	N	M-Stop Sampling param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3116	8	NONE
PRPD3118	TCDP	N	M-Stop Sampling param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3116	16	NONE
PRPD3119	TCDP	N	M-Stop Sampling param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3116	32	NONE
PRPD3120	TCDP	N	M-Execute Macro Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h86	N	PRPG3120	0	NONE
PRPD3121	TCDP	N	M-Execute Macro param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3120	8	NONE
PRPD3122	TCDP	N	M-Execute Macro param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3120	16	NONE
PRPD3123	TCDP	N	M-Execute Macro param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3120	32	NONE
PRPD3124	TCDP	N	M-Dog Prom Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h87	N	PRPG3124	0	NONE
PRPD3125	TCDP	N	M-Dog Prom param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3124	8	NONE
PRPD3126	TCDP	N	M-Dog Prom param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3124	16	NONE
PRPD3127	TCDP	N	M-Dog Prom param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3124	32	NONE
PRPD3128	TCDP	N	M-Set Macro Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h88	N	PRPG3128	0	NONE
PRPD3129	TCDP	N	M-Set Macro param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3128	8	NONE
PRPD3130	TCDP	N	M-Set Macro param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3128	16	NONE
PRPD3131	TCDP	N	M-Set Macro param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3128	32	NONE
PRPD3132	TCDP	N	M-Read/Write Macro Opcod		7	SRPRPC00	2	8	8	NONE		URPRPC00			h89	N	PRPG3132	0	NONE
PRPD3133	TCDP	N	M-Read/Write Macro Par 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3132	8	NONE
PRPD3134	TCDP	N	M-Read/Write Macro Par 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3132	16	NONE
PRPD3135	TCDP	N	M-Read/Write Macro Par 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3132	32	NONE
PRPD3136	TCDP	N	M-Set Relays/Mux Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h8A	N	PRPG3136	0	NONE
PRPD3137	TCDP	N	M-Set Relays/Mux Par 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3136	8	NONE
PRPD3138	TCDP	N	M-Set Relays/Mux Par 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3136	16	NONE
PRPD3139	TCDP	N	M-Set Relays/Mux Par 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3136	32	NONE
PRPD3140	TCDP	N	M-ADC Control Reg Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h8B	N	PRPG3140	0	NONE
PRPD3141	TCDP	N	M-ADC Control Reg Par 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3140	8	NONE
PRPD3142	TCDP	N	M-ADC Control Reg Par 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3140	16	NONE
PRPD3143	TCDP	N	M-ADC Control Reg Par 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3140	32	NONE
PRPD3144	TCDP	N	M-Denisty Sweep Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h8C	N	PRPG3144	0	NONE
PRPD3145	TCDP	N	M-Denisty Sweep param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3144	8	NONE
PRPD3146	TCDP	N	M-Denisty Sweep param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3144	16	NONE
PRPD3147	TCDP	N	M-Denisty Sweep param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3144	32	NONE
PRPD3148	TCDP	N	M-Dnsty Fix Bias Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h8D	N	PRPG3148	0	NONE
PRPD3149	TCDP	N	M-Dnsty Fix Bias param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3148	8	NONE
PRPD3150	TCDP	N	M-Dnsty Fix Bias param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3148	16	NONE
PRPD3151	TCDP	N	M-Dnsty Fix Bias param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3148	32	NONE
PRPD3152	TCDP	N	M-E Fix Bias Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h8E	N	PRPG3152	0	NONE
PRPD3153	TCDP	N	M-E Fix Bias param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3152	8	NONE
PRPD3154	TCDP	N	M-E Fix Bias param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3152	16	NONE
PRPD3155	TCDP	N	M-E Fix Bias param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3152	32	NONE
PRPD3156	TCDP	N	M-IO Poke Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h8F	N	PRPG3156	0	NONE
PRPD3157	TCDP	N	M-IO Poke param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3156	8	NONE
PRPD3158	TCDP	N	M-IO Poke param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3156	16	NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAM	TCDP_START_BIT	ON_BOARD_SW
PRPD3159	TCDP	N	M-IO Poke param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3156	32	NONE
PRPD3160	TCDP	N	M-LDL Mode Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h90	N	PRPG3160	0	NONE
PRPD3161	TCDP	N	M-LDL Mode param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3160	8	NONE
PRPD3162	TCDP	N	M-LDL Mode param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3160	16	NONE
PRPD3163	TCDP	N	M-LDL Mode param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3160	32	NONE
PRPD3164	TCDP	N	M-Peek Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h92	N	PRPG3164	0	NONE
PRPD3165	TCDP	N	M-Peek param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3164	8	NONE
PRPD3166	TCDP	N	M-Peek param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3164	16	NONE
PRPD3167	TCDP	N	M-Peek param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3164	32	NONE
PRPD3168	TCDP	N	M-Poke Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h93	N	PRPG3168	0	NONE
PRPD3169	TCDP	N	M-Poke param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3168	8	NONE
PRPD3170	TCDP	N	M-Poke param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3168	16	NONE
PRPD3171	TCDP	N	M-Poke param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3168	32	NONE
PRPD3172	TCDP	N	M-Flash Peek Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h94	N	PRPG3172	0	NONE
PRPD3173	TCDP	N	M-Flash Peek param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3172	8	NONE
PRPD3174	TCDP	N	M-Flash Peek param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3172	16	NONE
PRPD3175	TCDP	N	M-Flash Peek param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3172	32	NONE
PRPD3176	TCDP	N	M-Prog Peek Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h96	N	PRPG3176	0	NONE
PRPD3177	TCDP	N	M-Prog Peek param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3176	8	NONE
PRPD3178	TCDP	N	M-Prog Peek param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3176	16	NONE
PRPD3179	TCDP	N	M-Prog Peek param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3176	32	NONE
PRPD3180	TCDP	N	M-EE Boot Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h97	N	PRPG3180	0	NONE
PRPD3181	TCDP	N	M-EE Boot param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3180	8	NONE
PRPD3182	TCDP	N	M-EE Boot param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3180	16	NONE
PRPD3183	TCDP	N	M-EE Boot param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3180	32	NONE
PRPD3184	TCDP	N	M-End Macro Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h99	N	PRPG3184	0	NONE
PRPD3185	TCDP	N	M-End Macro param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3184	8	NONE
PRPD3186	TCDP	N	M-End Macro param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3184	16	NONE
PRPD3187	TCDP	N	M-End Macro param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3184	32	NONE
PRPD3188	TCDP	N	M-Resampling Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h9A	N	PRPG3188	0	NONE
PRPD3189	TCDP	N	M-Resampling param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3188	8	NONE
PRPD3190	TCDP	N	M-Resampling param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3188	16	NONE
PRPD3191	TCDP	N	M-Resampling param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3188	32	NONE
PRPD3192	TCDP	N	M-Set Filter Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h9B	N	PRPG3192	0	NONE
PRPD3193	TCDP	N	M-Set Filter param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3192	8	NONE
PRPD3194	TCDP	N	M-Set Filter param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3192	16	NONE
PRPD3195	TCDP	N	M-Set Filter param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3192	32	NONE
PRPD3196	TCDP	N	M-Set Mvg Avrg/ADC Opcd		7	SRPRPC00	2	8	8	NONE		URPRPC00			h9C	N	PRPG3196	0	NONE
PRPD3197	TCDP	N	M-Set Mvg Avrg/ADC par1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3196	8	NONE
PRPD3198	TCDP	N	M-Set Mvg Avrg/ADC par2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3196	16	NONE
PRPD3199	TCDP	N	M-Set Mvg Avrg/ADC par3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3196	32	NONE
PRPD3200	TCDP	N	M-Reset Actel Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h9D	N	PRPG3200	0	NONE
PRPD3201	TCDP	N	M-Reset Actel param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3200	8	NONE
PRPD3202	TCDP	N	M-Reset Actel param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3200	16	NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAM	TCDP_START_BIT	ON_BOARD_SW
PRPD3203	TCDP	N	M-Reset Actel param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3200	32	NONE
PRPD3204	TCDP	N	M-Transmitter Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			h9E	N	PRPG3204	0	NONE
PRPD3205	TCDP	N	M-Transmitter param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3204	8	NONE
PRPD3206	TCDP	N	M-Transmitter param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3204	16	NONE
PRPD3207	TCDP	N	M-Transmitter param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3204	32	NONE
PRPD3208	TCDP	N	M-AQP Hold Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hb0	N	PRPG3208	0	NONE
PRPD3209	TCDP	N	M-AQP Hold param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3208	8	NONE
PRPD3210	TCDP	N	M-AQP Hold param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3208	16	NONE
PRPD3211	TCDP	N	M-AQP Hold param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3208	32	NONE
PRPD3212	TCDP	N	M-Goto Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hb1	N	PRPG3212	0	NONE
PRPD3213	TCDP	N	M-Goto param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3212	8	NONE
PRPD3214	TCDP	N	M-Goto param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3212	16	NONE
PRPD3215	TCDP	N	M-Goto param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3212	32	NONE
PRPD3216	TCDP	N	M-Sample Hold Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hb2	N	PRPG3216	0	NONE
PRPD3217	TCDP	N	M-Sample Hold param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3216	8	NONE
PRPD3218	TCDP	N	M-Sample Hold param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3216	16	NONE
PRPD3219	TCDP	N	M-Sample Hold param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3216	32	NONE
PRPD3220	TCDP	N	M-Fillout Buffer Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hb3	N	PRPG3220	0	NONE
PRPD3221	TCDP	N	M-Fillout Buffer param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3220	8	NONE
PRPD3222	TCDP	N	M-Fillout Buffer param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3220	16	NONE
PRPD3223	TCDP	N	M-Fillout Buffer param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3220	32	NONE
PRPD3224	TCDP	N	M-FullOut Buffer Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hb4	N	PRPG3224	0	NONE
PRPD3225	TCDP	N	M-FullOut Buffer param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3224	8	NONE
PRPD3226	TCDP	N	M-FullOut Buffer param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3224	16	NONE
PRPD3227	TCDP	N	M-FullOut Buffer param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3224	32	NONE
PRPD3228	TCDP	N	M-A 20 Mvg Avrg Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hb5	N	PRPG3228	0	NONE
PRPD3229	TCDP	N	M-A 20 Mvg Avrg param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3228	8	NONE
PRPD3230	TCDP	N	M-A 20 Mvg Avrg param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3228	16	NONE
PRPD3231	TCDP	N	M-A 20 Mvg Avrg param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3228	32	NONE
PRPD3232	TCDP	N	M-Set Start Hdr Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hb6	N	PRPG3232	0	NONE
PRPD3233	TCDP	N	M-Set Start Hdr param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3232	8	NONE
PRPD3234	TCDP	N	M-Set Start Hdr param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3232	16	NONE
PRPD3235	TCDP	N	M-Set Start Hdr param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3232	32	NONE
PRPD3236	TCDP	N	M-Set Subheader Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hb7	N	PRPG3236	0	NONE
PRPD3237	TCDP	N	M-Set Subheader param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3236	8	NONE
PRPD3238	TCDP	N	M-Set Subheader param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3236	16	NONE
PRPD3239	TCDP	N	M-Set Subheader param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3236	32	NONE
PRPD3240	TCDP	N	M-Do FFT Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hb8	N	PRPG3240	0	NONE
PRPD3241	TCDP	N	M-Do FFT param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3240	8	NONE
PRPD3242	TCDP	N	M-Do FFT param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3240	16	NONE
PRPD3243	TCDP	N	M-Do FFT param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3240	32	NONE
PRPD3244	TCDP	N	M-Set params Opcode		7	SRPRPC00	2	8	8	NONE		URPRPC00			hbA	N	PRPG3244	0	NONE
PRPD3245	TCDP	N	M-Set params param 1		7	SRPRPC00	2	8	8	NONE		URPRPC00			0	Y	PRPG3244	8	NONE
PRPD3246	TCDP	N	M-Set params param 2		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3244	16	NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAME	TCDP_START_BIT	ON_BOARD_SW
PRPD3247	TCDP	N	M-Set params param 3		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y	PRPG3244	32	NONE
PRPD4001	TCDP	N	Load Config detail 1		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y	PRPG4001	0	NONE
PRPD4002	TCDP	N	Load Config detail 2		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y	PRPG4001	16	NONE
PRPD4003	TCDP	N	Load Config detail 3		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y	PRPG4001	32	NONE
PRPD5001	TCDP	N	Test Mode SID Param		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG5001	0	NONE
PRPD5002	TCDP	N	Test Mode Stage Param		7	SRPRPC00	3	4	8	NONE		URPRPC00				Y	PRPG5001	8	NONE
PRPD6101	TCDP	N	PAD		7	SRPRPC00	3	4	8	NONE		URPRPC00			0	Y	PRPG6100	0	NONE
PRPD6109	TCDP	N	Nmbr_Commands		7	SRPRPC00	3	4	8	NONE		URPRPC00			1	Y	PRPG6100	8	NONE
PRPD6201	TCDP	N	Route		7	SRPRPC00	2	1	1	NONE		URPRPC00			b0	Y	PRPG6200	0	NONE
PRPD6202	TCDP	N	PAD		7	SRPRPC00	3	3	7	NONE		URPRPC00			0	Y	PRPG6200	1	NONE
PRPD6209	TCDP	N	Peripheral Address		7	SRPRPC00	3	1	5	NONE		URPRPC00			b01011	Y	PRPG6200	8	NONE
PRPD6214	TCDP	N	PAD		7	SRPRPC00	2	3	3	NONE		URPRPC00			0	Y	PRPG6200	13	NONE
PRPD6217	TCDP	N	PAD		7	SRPRPC00	2	4	4	NONE		URPRPC00			0	Y	PRPG6200	16	NONE
PRPD6221	TCDP	N	Opcode		7	SRPRPC00	2	4	4	NONE		URPRPC00			b0010	Y	PRPG6200	20	NONE
PRPD6225	TCDP	N	Channel Address		7	SRPRPC00	3	4	8	NONE		URPRPC00			h2	Y	PRPG6200	24	NONE
PRPD7101	TCDP	N	PAD		7	SRPRPC00	3	4	8	NONE		URPRPC00			0	Y	PRPG7100	0	NONE
PRPD7109	TCDP	N	SID		7	SRPRPC00	3	4	8	NONE		URPRPC00			1	Y	PRPG7100	8	NONE
PRPD8101	TCDP	N	Memory ID		7	SRPRPC00	2	8	8	NONE		URPRPC00			h82	Y	PRPG8100	0	NONE
PRPD8102	TCDP	N	Number of Blocks		7	SRPRPC00	3	4	8	NONE		URPRPC00			1	Y	PRPG8100	8	NONE
PRPDA101	TCDP	N	PAD		7	SRPRPC00	3	5	9	NONE		URPRPC00			0	Y	PRPGA100	0	NONE
PRPDA10A	TCDP	N	PID		7	SRPRPC00	2	7	7	NONE		URPRPC00			83	Y	PRPGA100	9	NONE
PRPG0001	TCGP	N	Set IES Power		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0002	TCGP	N	Set ICA Power		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0003	TCGP	N	Set LAP Power		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0004	TCGP	N	Set MIP Power		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0005	TCGP	N	Set MAG Power		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0007	TCGP	N	Set IES Link		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0008	TCGP	N	Set ICA Link		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0009	TCGP	N	Set LAP Link		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0010	TCGP	N	Set MIP Link		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0011	TCGP	N	Set MAG Link		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG0012	TCGP	N	Set SW Location		7	SRPRPC00	2	16	16	NONE		URPRPC00			0	Y			NONE
PRPG0013	TCGP	N	Patch Address		7	SRPRPC00	3	14	32	NONE		URPRPC00				Y			NONE
PRPG0014	TCGP	N	Keyhole Address		7	SRPRPC00	3	12	16	NONE		URPRPC00			h0002	Y			NONE
PRPG0015	TCGP	N	Time Delay		7	SRPRPC00	3	12	16	NONE		URPRPC00			0	Y			NONE
PRPG0016	TCGP	N	Activate / De-Activate		7	SRPRPC00	3	12	16	DIG	CRPV0105	URPRPC00			hDEAD	Y			NONE
PRPG0017	TCGP	N	Asleep / Active		7	SRPRPC00	3	12	16	DIG	CRPV0106	URPRPC00			hDEAD	Y			NONE
PRPG0B05	TCGP	N	Mode Select		7	SRPRPC00	2	16	16	NONE		URPRPC00			h0201	Y			NONE
PRPG0B06	TCGP	N	When in Acq Period		7	SRPRPC00	3	12	16	NONE		URPRPC00			h4E20	Y			NONE
PRPG0B07	TCGP	N	Repetition Interval		7	SRPRPC00	3	12	16	NONE		URPRPC00			h7D00	Y			NONE
PRPG1010	TCGP	N	IES-COMM-RATE-MODE glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1100	TCGP	N	IES-DATA-ACQ-EN glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1120	TCGP	N	IES-DATA-ACQ-TABLE glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1130	TCGP	N	IES-DATA-GENERATE-EN glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAME	TCDP_START_BIT	ON_BOARD_SW
PRPG1310	TCGP	N	IES-HV-DEF-EN glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1330	TCGP	N	IES-HV-ELC-MCP-EN glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1350	TCGP	N	IES-HV-ESA-EN glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1370	TCGP	N	IES-HV-ION-MCP-EN glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1380	TCGP	N	IES-HV-EN glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1410	TCGP	N	IES-INSTR-CLR-STATUS glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1430	TCGP	N	IES-INSTR-PROG-MODE glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1440	TCGP	N	IES-INSTR-RESET glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1700	TCGP	N	IES-STIM-ELC-ADJ glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1710	TCGP	N	IES-STIM-ELC-EN glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1720	TCGP	N	IES-STIM-ION-ADJ glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1730	TCGP	N	IES-STIM-ION-EN glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1900	TCGP	N	IES-SEQ-END glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1910	TCGP	N	IES-SEQ-END-ALL glb		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1B06	TCGP	N	IES-HV-DEF-ADJ glb		7	SRPRPC00	0	32	32	NONE		URPRPC00				Y			NONE
PRPG1B07	TCGP	N	IES-HV-ELC-MCP-ADJ glb		7	SRPRPC00	0	32	32	NONE		URPRPC00				Y			NONE
PRPG1B08	TCGP	N	IES-HV-ESA-ADJ glb		7	SRPRPC00	0	32	32	NONE		URPRPC00				Y			NONE
PRPG1B09	TCGP	N	IES-HV-ION-MCP-ADJ glb		7	SRPRPC00	0	32	32	NONE		URPRPC00				Y			NONE
PRPG1B16	TCGP	N	IES-INSTR-WDOG-CTL glb		7	SRPRPC00	0	32	32	NONE		URPRPC00				Y			NONE
PRPG1B23	TCGP	N	IES-MEM-COPY glb 1		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG1B24	TCGP	N	IES-MEM-COPY glb 2		7	SRPRPC00	0	32	32	NONE		URPRPC00				Y			NONE
PRPG1B25	TCGP	N	IES-MEM-GO glb		7	SRPRPC00	0	32	32	NONE		URPRPC00				Y			NONE
PRPG1B26	TCGP	N	IES-MEM-WRITE glb 1		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG1B27	TCGP	N	IES-MEM-WRITE glb 2		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1B28	TCGP	N	IES-SAFETY-AMB-SET glb 1		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG1B29	TCGP	N	IES-SAFETY-AMB-SET glb 2		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1B30	TCGP	N	IES-SAFETY-ELC glb 1		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG1B31	TCGP	N	IES-SAFETY-ELC glb 2		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1B32	TCGP	N	IES-SAFETY-ION glb 1		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG1B33	TCGP	N	IES-SAFETY-ION glb 2		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG1B34	TCGP	N	IES-SEQ-TRIGGER glb		7	SRPRPC00	0	32	32	NONE		URPRPC00				Y			NONE
PRPG2001	TCGP	N	Mcp 28V switch		7	SRPRPC00	2	16	16	ANA	CRPP2001	URPRPC00		TBD	0.0	Y			NONE
PRPG2002	TCGP	N	Opto 28V switch		7	SRPRPC00	2	16	16	ANA	CRPP2002	URPRPC00		TBD	0.0	Y			NONE
PRPG2003	TCGP	N	Main 28V switch		7	SRPRPC00	2	16	16	ANA	CRPP2003	URPRPC00		TBD	0.0	Y			NONE
PRPG2004	TCGP	N	Pacc HV switch		7	SRPRPC00	2	16	16	ANA	CRPP2004	URPRPC00		TBD	0.0	Y			NONE
PRPG2005	TCGP	N	Grid LV switch		7	SRPRPC00	2	16	16	ANA	CRPP2005	URPRPC00		TBD	0.0	Y			NONE
PRPG2006	TCGP	N	Entr HV switch		7	SRPRPC00	2	16	16	ANA	CRPP2006	URPRPC00		TBD	0.0	Y			NONE
PRPG2007	TCGP	N	Defl LV switch		7	SRPRPC00	2	16	16	ANA	CRPP2007	URPRPC00		TBD	0.0	Y			NONE
PRPG2008	TCGP	N	Defl HV switch		7	SRPRPC00	2	16	16	ANA	CRPP2008	URPRPC00		TBD	0.0	Y			NONE
PRPG2009	TCGP	N	Direct cmd. switch		7	SRPRPC00	2	16	16	ANA	CRPP2009	URPRPC00		TBD	0.0	Y			NONE
PRPG2010	TCGP	N	WD enable/disable		7	SRPRPC00	2	16	16	ANA	CRPP2010	URPRPC00		TBD	0.0	Y			NONE
PRPG2011	TCGP	N	GAS enable/disable		7	SRPRPC00	2	16	16	ANA	CRPP2011	URPRPC00		TBD	0.0	Y			NONE
PRPG2012	TCGP	N	Thruster enable/disable		7	SRPRPC00	2	16	16	ANA	CRPP2012	URPRPC00		TBD	0.0	Y			NONE
PRPG2014	TCGP	N	Compression switch		7	SRPRPC00	2	16	16	ANA	CRPP2014	URPRPC00		TBD	0.0	Y			NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAME	TCDP_START_BIT	ON_BOARD_SW
PRPG2015	TCGP	N	Alt.pacc. switch		7	SRPRPC00	2	16	16	ANA	CRPP2015	URPRPC00		TBD	0.0	Y			NONE
PRPG2016	TCGP	N	Pacc. Level		7	SRPRPC00	2	16	16	ANA	CRPP2016	URPRPC00		TBD	0.0	Y			NONE
PRPG2017	TCGP	N	Auto.red. switch		7	SRPRPC00	2	16	16	ANA	CRPP2017	URPRPC00		TBD	0.0	Y			NONE
PRPG2025	TCGP	N	Next cmd. direct		7	SRPRPC00	2	16	16	NONE		URPRPC00			h0040	Y			NONE
PRPG2026	TCGP	N	Deflection step		7	SRPRPC00	2	16	16	NONE		URPRPC00			h0041	Y			NONE
PRPG2027	TCGP	N	Entrance step		7	SRPRPC00	2	16	16	NONE		URPRPC00			h0042	Y			NONE
PRPG2028	TCGP	N	Release V-cal format		7	SRPRPC00	2	16	16	NONE		URPRPC00			h0043	Y			NONE
PRPG2035	TCGP	N	Test WD reset		7	SRPRPC00	2	16	16	NONE		URPRPC00			h004A	Y			NONE
PRPG2036	TCGP	N	Empty Fifo		7	SRPRPC00	2	16	16	NONE		URPRPC00			h004B	Y			NONE
PRPG2037	TCGP	N	Flush Fifo		7	SRPRPC00	2	16	16	NONE		URPRPC00			h004C	Y			NONE
PRPG2038	TCGP	N	Boot PROM		7	SRPRPC00	2	16	16	NONE		URPRPC00			h004D	Y			NONE
PRPG2039	TCGP	N	Imager test		7	SRPRPC00	2	16	16	NONE		URPRPC00			h004E	Y			NONE
PRPG2040	TCGP	N	Dummy cmd		7	SRPRPC00	2	16	16	NONE		URPRPC00			h004F	Y			NONE
PRPG2111	TCGP	N	Boot EEP incl. Context		7	SRPRPC00	2	16	16	ANA	CRPP2111	URPRPC00		TBD	0.0	Y			NONE
PRPG2112	TCGP	N	Test pattern		7	SRPRPC00	2	16	16	ANA	CRPP2112	URPRPC00		TBD	0.0	Y			NONE
PRPG2113	TCGP	N	Boot EEP excl. Context		7	SRPRPC00	2	16	16	ANA	CRPP2113	URPRPC00		TBD	0.0	Y			NONE
PRPG2114	TCGP	N	RPC Internal SID nr		7	SRPRPC00	2	16	16	ANA	CRPP2114	URPRPC00		TBD	0.0	Y			NONE
PRPG2115	TCGP	N	Default boot section		7	SRPRPC00	2	16	16	ANA	CRPP2115	URPRPC00		TBD	0.0	Y			NONE
PRPG2201	TCGP	N	Deflection level		7	SRPRPC00	2	16	16	ANA	CRPP2201	URPRPC00		TBD	0.0	Y			NONE
PRPG2202	TCGP	N	Entrance level		7	SRPRPC00	2	16	16	ANA	CRPP2202	URPRPC00		TBD	0.0	Y			NONE
PRPG2203	TCGP	N	SW start level		7	SRPRPC00	2	16	16	ANA	CRPP2203	URPRPC00		TBD	0.0	Y			NONE
PRPG2204	TCGP	N	GAS pressure low		7	SRPRPC00	2	16	16	ANA	CRPP2204	URPRPC00		TBD	0.0	Y			NONE
PRPG2205	TCGP	N	GAS pressure high		7	SRPRPC00	2	16	16	ANA	CRPP2205	URPRPC00		TBD	0.0	Y			NONE
PRPG2210	TCGP	N	Mode		7	SRPRPC00	2	16	16	ANA	CRPP2210	URPRPC00		TBD	0.0	Y			NONE
PRPG2301	TCGP	N	Opto reference		7	SRPRPC00	2	16	16	ANA	CRPP2301	URPRPC00		TBD	0.0	Y			NONE
PRPG2302	TCGP	N	Mcp reference		7	SRPRPC00	2	16	16	ANA	CRPP2302	URPRPC00		TBD	0.0	Y			NONE
PRPG2303	TCGP	N	Grid reference		7	SRPRPC00	2	16	16	ANA	CRPP2303	URPRPC00		TBD	0.0	Y			NONE
PRPG2304	TCGP	N	Pacc low ref.		7	SRPRPC00	2	16	16	ANA	CRPP2304	URPRPC00		TBD	0.0	Y			NONE
PRPG2305	TCGP	N	Pacc high ref.		7	SRPRPC00	2	16	16	ANA	CRPP2305	URPRPC00		TBD	0.0	Y			NONE
PRPG2306	TCGP	N	Deflection LV ref.		7	SRPRPC00	2	16	16	ANA	CRPP2306	URPRPC00		TBD	0.0	Y			NONE
PRPG2307	TCGP	N	Deflection HV ref.		7	SRPRPC00	2	16	16	ANA	CRPP2307	URPRPC00		TBD	0.0	Y			NONE
PRPG2308	TCGP	N	Entrance ref.		7	SRPRPC00	2	16	16	ANA	CRPP2308	URPRPC00		TBD	0.0	Y			NONE
PRPG2309	TCGP	N	Noise reduction		7	SRPRPC00	2	16	16	ANA	CRPP2309	URPRPC00		TBD	0.0	Y			NONE
PRPG2310	TCGP	N	Fifo low mark		7	SRPRPC00	2	16	16	ANA	CRPP2310	URPRPC00		TBD	0.0	Y			NONE
PRPG2311	TCGP	N	Fifo high mark		7	SRPRPC00	2	16	16	ANA	CRPP2311	URPRPC00		TBD	0.0	Y			NONE
PRPG2312	TCGP	N	Fifo force mark		7	SRPRPC00	2	16	16	ANA	CRPP2312	URPRPC00		TBD	0.0	Y			NONE
PRPG2313	TCGP	N	Fifo clear mark		7	SRPRPC00	2	16	16	ANA	CRPP2313	URPRPC00		TBD	0.0	Y			NONE
PRPG2315	TCGP	N	Start cmd.		7	SRPRPC00	0	16	16	NONE		URPRPC00			hF000	Y			NONE
PRPG2B12	TCGP	N	Reprog. all EEP sections		7	SRPRPC00	2	16	16	ANA	CRPP2212	URPRPC00		TBD	0.0	Y			NONE
PRPG2B13	TCGP	N	Reprog. EEP section		7	SRPRPC00	2	16	16	NONE		URPRPC00			h0D00	Y			NONE
PRPG2B80	TCGP	N	Security lock.		7	SRPRPC00	2	16	16	NONE		URPRPC00			hFEED	Y			NONE
PRPG3000	TCGP	N	Dummy Command		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3004	TCGP	N	Set Telemetry Rate		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3008	TCGP	N	Start Sampling		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAME	TCDP_START_BIT	ON_BOARD_SW
PRPG3012	TCGP	N	Stop Sampling		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3016	TCGP	N	Execute Macro		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3020	TCGP	N	Dog Prom		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3024	TCGP	N	Set Macro		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3028	TCGP	N	Read/Write Macro		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3032	TCGP	N	Set Relays & Muxes		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3036	TCGP	N	ADC Control Register		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3040	TCGP	N	Denisty Sweep		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3044	TCGP	N	Denisty Fix Bias		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3048	TCGP	N	E Fix Bias		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3052	TCGP	N	IO Poke		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3056	TCGP	N	LDL Mode		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3060	TCGP	N	Peek		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3064	TCGP	N	Poke		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3068	TCGP	N	Flash Peek		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3072	TCGP	N	Prog Peek		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3076	TCGP	N	EE Boot		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3080	TCGP	N	End Macro		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3084	TCGP	N	Resampling		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3088	TCGP	N	Set Filter		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3092	TCGP	N	Set Moving Avrg & ADC		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3096	TCGP	N	Reset Actel		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3100	TCGP	N	Transmitter		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3104	TCGP	N	M-Dummy Command		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3108	TCGP	N	M-Set Telemetry Rate		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3112	TCGP	N	M-Start Sampling		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3116	TCGP	N	M-Stop Sampling		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3120	TCGP	N	M-Execute Macro		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3124	TCGP	N	M-Dog Prom		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3128	TCGP	N	M-Set Macro		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3132	TCGP	N	M-Read/Write Macro		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3136	TCGP	N	M-Set Relays & Muxes		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3140	TCGP	N	M-ADC Control Register		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3144	TCGP	N	M-Denisty Sweep		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3148	TCGP	N	M-Denisty Fix Bias		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3152	TCGP	N	M-E Fix Bias		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3156	TCGP	N	M-IO Poke		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3160	TCGP	N	M-LDL Mode		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3164	TCGP	N	M-Peek		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3168	TCGP	N	M-Poke		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3172	TCGP	N	M-Flash Peek		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3176	TCGP	N	M-Prog Peek		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3180	TCGP	N	M-EE Boot		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3184	TCGP	N	M-End Macro		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCGP_NAME	TCDP_START_BIT	ON_BOARD_SW
PRPG3188	TCGP	N	M-Resampling		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3192	TCGP	N	M-Set Filter		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3196	TCGP	N	M-Set Moving Avrg & ADC		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3200	TCGP	N	M-Reset Actel		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3204	TCGP	N	M-Transmitter		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3208	TCGP	N	M-AQP Hold		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3212	TCGP	N	M-Goto		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3216	TCGP	N	M-Sample Hold		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3220	TCGP	N	M-Fillout Buffer		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3224	TCGP	N	M-FullOut Buffer		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3228	TCGP	N	M-A 20 Moving Avrg		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3232	TCGP	N	M-Set Start Header		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3236	TCGP	N	M-Set Subheader		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3240	TCGP	N	M-Do FFT		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG3244	TCGP	N	M-Set Parameters		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG4000	TCGP	N	Time Delay (ms)		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y			NONE
PRPG4001	TCGP	N	Cfg Table		7	SRPRPC00	0	48	48	NONE		URPRPC00				Y			NONE
PRPG4002	TCGP	N	Set_Fq1		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4003	TCGP	N	Set_Fq2		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4004	TCGP	N	Set_Fq3		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4005	TCGP	N	Set_Lvl		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4006	TCGP	N	Set_Oswp		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4007	TCGP	N	Set_Eswp		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4008	TCGP	N	Set_Thr		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4009	TCGP	N	Set_SwpB		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4010	TCGP	N	Set_SurB		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4011	TCGP	N	Set_Pres		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4012	TCGP	N	Set_AuLp		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4013	TCGP	N	Set_Wd		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4014	TCGP	N	Set_SqNb		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4015	TCGP	N	Set_LDLT		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4016	TCGP	N	Set_Mode		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG4017	TCGP	N	Set_TmRt		7	SRPRPC00	2	16	16	NONE		URPRPC00				Y			NONE
PRPG5001	TCGP	N	SID 6 Param		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y			NONE
PRPG6100	TCGP	N	High Power word 1		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG6200	TCGP	N	High Power Data Field		7	SRPRPC00	0	32	32	NONE		URPRPC00				Y			NONE
PRPG7100	TCGP	N	En/Dis HK Param Field		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG8100	TCGP	N	Mem_Load Word 1		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPG8200	TCGP	N	Start Address		7	SRPRPC00	3	14	32	NONE		URPRPC00			0	Y			NONE
PRPG8300	TCGP	N	Block Length		7	SRPRPC00	3	12	16	NONE		URPRPC00			1	Y			NONE
PRPG8400	TCGP	N	Memory Data		7	SRPRPC00	3	12	16	NONE		URPRPC00			h7070	Y			NONE
PRPG9100	TCGP	N	CUC Time		7	SRPRPC00	9	17	48	NONE		URPRPC00				Y			NONE
PRPG9901	OCMD	N	Switch MLC for RPC		3	SRPRPC00	3	12	16	NONE		URPRPC00				Y			NONE
PRPG9991	OCMD	N	MLC for RPC	PRPG9992	3	SRPRPC00	3	12	16	NONE		URPRPC00	URPRPC00			Y			NONE

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TCPA_SIZE	CALIB_TYPE	CALC_NAME_1	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	ENGLABEL	DEF_VALUE	IS_MODIFIABLE	TCDP_TCE GP_NAM	TCDP_START_BIT	ON_BOARD_SW
PRPGA100	TCGP	N	En/Dis Science Param		7	SRPRPC00	0	16	16	NONE		URPRPC00				Y			NONE
PRPH1000	OCMD	N	RPC_HPC_RTU-P/L		7	SRPRPC00	3	12	16	NONE		URPRPC00				Y			DMS

PRPG9901	MEMORY	RBDRTUPL	1		08;18		
PRPG9991	MEMORY	RBDRTUPL	2			RBDRTUPL	2
PRPGA100							
PRPH1000	HIGHP	RBDRTUPL	2	130			

6.2 RPC Telemetry Definitions

6.2.1 C_TMPCK

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKGATEG	SCOPE	INIT_STATE	OBSW_GENER	OBSW_DECOD	MINLENGTH	MAXLENGTH	FREQGEN	PHASEGEN	SDFVALUE	STARTDATA	COMPRESSION
YRP00325	N	PIU HK SID 1	7	ETM00325HKPK	83	4	SPACE	AUTH	OTHER	NONE	38	38	1	1	1	ALL	NONE
YRP00606	N	PIU Memory Dump Report	7	ETM00606MMDP	83	9	SPACE	AUTH	OTHER	NONE	26	4112	1	1	130	ALL	NONE
YRP00610	N	PIU Memory Check Report	7	ETM00610MMCK	83	7	SPACE	AUTH	OTHER	NONE	26	26	1	1	130	ALL	NONE
YRP01702	N	Connection Test Response	7	ETM01702CTST	83	7	SPACE	AUTH	OTHER	NONE		16	1	1		ALL	NONE
YRP0AE00	N	EC_PiuAlive	7	ETM00501EVNM	83	7	SPACE	AUTH	OTHER	NONE	24	24	1	1	44544	ALL	NONE
YRP0AE01	N	EC_UnexpectedIrq	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	44545	ALL	NONE
YRP0AE40	N	EC_NrmFifoOvrFlw	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44608	ALL	NONE
YRP0AE41	N	EC_PrtyFifoOvrFlw	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44609	ALL	NONE
YRP0AE42	N	EC_NrmlFifoReset	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	44610	ALL	NONE
YRP0AE43	N	EC_PrtyFifoReset	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	44611	ALL	NONE
YRP0AE80	N	EC_SoftReboot	7	ETM00501EVNM	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44672	ALL	NONE
YRP0AE81	N	EC_MipDogBarking	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44673	ALL	NONE
YRP0AE82	N	EC_TcDiscarded	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	24	24	1	1	44674	ALL	NONE
YRP0AE83	N	EC_LasyAqpTime	7	ETM00501EVNM	83	7	SPACE	AUTH	OTHER	NONE	24	24	1	1	44675	ALL	NONE
YRP0AE84	N	EC_AutoShutDown	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	44676	ALL	NONE
YRP0AEC0	N	EC_ChkSmFail	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	44736	ALL	NONE
YRP0AEC1	N	EC_BadLdlSync	7	ETM00504EVEO	83	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	44737	ALL	NONE
YRP0AEC2	N	EC_ChkSmPass	7	ETM00501EVNM	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44738	ALL	NONE
YRP0AEC3	N	EC_ParamMntrWrning	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	26	26	1	1	44739	ALL	NONE
YRP0AEC4	N	EC_ParamMntrDanger	7	ETM00504EVEO	83	7	SPACE	AUTH	OTHER	NONE	26	26	1	1	44740	ALL	NONE
YRP0AF00	N	EC_BadMemCmdStruct	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	24	24	1	1	44800	ALL	NONE
YRP0AF01	N	EC_BadMemID	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	24	24	1	1	44801	ALL	NONE
YRP0AF02	N	EC_BadMemAddr	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	24	24	1	1	44802	ALL	NONE
YRP0AF03	N	EC_E2promWriteFail	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	26	26	1	1	44803	ALL	NONE
YRP0AF04	N	EC_BadEpromChkSum	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	26	26	1	1	44804	ALL	NONE
YRP0AF05	N	EC_MemDmpNotSprtd	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	44805	ALL	NONE
YRP0AF40	N	EC_RamTestFail	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	26	26	1	1	44864	ALL	NONE
YRP0AF41	N	EC_RamMapInvert	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44865	ALL	NONE
YRP0AF42	N	EC_ScatTcFifoFail	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44866	ALL	NONE
YRP0AF43	N	EC_ScatTmFifoFail	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44867	ALL	NONE
YRP0AFC0	N	IES EC_ReInit(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44992	ALL	NONE
YRP0AFC1	N	IES EC_NoNormalMode(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44993	ALL	NONE
YRP0AFC2	N	IES EC_RxTimeout(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44994	ALL	NONE
YRP0AFC3	N	IES EC_BadTcType(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44995	ALL	NONE
YRP0AFC4	N	IES EC_PktTooLong(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44996	ALL	NONE

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	INIT_STATE	OBSW_GENER	OBSW_DECOD	MINLENGTH	MAXLENGTH	FREQGEN	PHASEGEN	SDFVALUE	STARTDATA	COMPRESSION
YRP0AFC5	N	IES EC_PktTooShrt(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44997	ALL	NONE
YRP0AFC6	N	IES EC_PktTrunc(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44998	ALL	NONE
YRP0AFC7	N	IES EC_InvalidSid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	44999	ALL	NONE
YRP0AFC8	N	IES EC_BadScncMode(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45000	ALL	NONE
YRP0AFC9	N	IES EC_LinkRst(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45001	ALL	NONE
YRP0AFCA	N	IES EC_LinkRstsMdm(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45002	ALL	NONE
YRP0AFCB	N	IES EC_LinkRstsHgh(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45003	ALL	NONE
YRP0AFCC	N	IES EC_HkPktNotValid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	45004	ALL	NONE
YRP0AFCD	N	IES EC_TcTxFailed	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45005	ALL	NONE
YRP0AFCE	N	IES EC_NormalMode	7	ETM00501EVNM	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45006	ALL	NONE
YRP0B000	N	ICA EC_ReInit(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45056	ALL	NONE
YRP0B001	N	ICA EC_NoNormalMode(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45057	ALL	NONE
YRP0B002	N	ICA EC_RxTimeout(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45058	ALL	NONE
YRP0B003	N	ICA EC_BadTcType(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45059	ALL	NONE
YRP0B004	N	ICA EC_PktTooLong(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45060	ALL	NONE
YRP0B005	N	ICA EC_PktTooShrt(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45061	ALL	NONE
YRP0B006	N	ICA EC_PktTrunc(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45062	ALL	NONE
YRP0B007	N	ICA EC_InvalidSid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45063	ALL	NONE
YRP0B008	N	ICA EC_BadScncMode(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45064	ALL	NONE
YRP0B009	N	ICA EC_LinkRst(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45065	ALL	NONE
YRP0B00A	N	ICA EC_LinkRstsMdm(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45066	ALL	NONE
YRP0B00B	N	ICA EC_LinkRstsHgh(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45067	ALL	NONE
YRP0B00C	N	ICA EC_HkPktNotValid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	45068	ALL	NONE
YRP0B00D	N	ICA EC_TcTxFailed	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45069	ALL	NONE
YRP0B00E	N	ICA EC_NormalMode	7	ETM00501EVNM	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45070	ALL	NONE
YRP0B040	N	LAP EC_ReInit(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45120	ALL	NONE
YRP0B041	N	LAP EC_NoNormalMode(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45121	ALL	NONE
YRP0B042	N	LAP EC_RxTimeout(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45122	ALL	NONE
YRP0B043	N	LAP EC_BadTcType(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45123	ALL	NONE
YRP0B044	N	LAP EC_PktTooLong(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45124	ALL	NONE
YRP0B045	N	LAP EC_PktTooShrt(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45125	ALL	NONE
YRP0B046	N	LAP EC_PktTrunc(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45126	ALL	NONE
YRP0B047	N	LAP EC_InvalidSid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45127	ALL	NONE
YRP0B048	N	LAP EC_BadScncMode(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45128	ALL	NONE
YRP0B049	N	LAP EC_LinkRst(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45129	ALL	NONE
YRP0B04A	N	LAP EC_LinkRstsMdm(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45130	ALL	NONE
YRP0B04B	N	LAP EC_LinkRstsHgh(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45131	ALL	NONE
YRP0B04C	N	LAP EC_HkPktNotValid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	45132	ALL	NONE
YRP0B04D	N	LAP EC_TcTxFailed	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45133	ALL	NONE
YRP0B04E	N	LAP EC_NormalMode	7	ETM00501EVNM	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45134	ALL	NONE
YRP0B080	N	MIP EC_ReInit(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45184	ALL	NONE
YRP0B081	N	MIP EC_NoNormalMode(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45185	ALL	NONE
YRP0B082	N	MIP EC_RxTimeout(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45186	ALL	NONE
YRP0B083	N	MIP EC_BadTcType(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45187	ALL	NONE

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	INIT_STATE	OBSW_GENER	OBSW_DECOD	MINLENGTH	MAXLENGTH	FREQGEN	PHASEGEN	SDFVALUE	STARTDATA	COMPRESSION
YRP0B084	N	MIP EC_PktTooLong(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45188	ALL	NONE
YRP0B085	N	MIP EC_PktTooShrt(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45189	ALL	NONE
YRP0B086	N	MIP EC_PktTrunc(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45190	ALL	NONE
YRP0B087	N	MIP EC_InvalidSid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45191	ALL	NONE
YRP0B088	N	MIP EC_BadScncMode(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45192	ALL	NONE
YRP0B089	N	MIP EC_LinkRst(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45193	ALL	NONE
YRP0B08A	N	MIP EC_LinkRstsMdm(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45194	ALL	NONE
YRP0B08B	N	MIP EC_LinkRstsHgh(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45195	ALL	NONE
YRP0B08C	N	MIP EC_HkPktNotValid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	45196	ALL	NONE
YRP0B08D	N	MIP EC_TcTxFailed	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45197	ALL	NONE
YRP0B08E	N	MIP EC_NormalMode	7	ETM00501EVNM	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45198	ALL	NONE
YRP0B0C0	N	MAG EC_ReInit(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45248	ALL	NONE
YRP0B0C1	N	MAG EC_NoNormalMode(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45249	ALL	NONE
YRP0B0C2	N	MAG EC_RxTimeout(unit)	7	ETM00503EVEG	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45250	ALL	NONE
YRP0B0C3	N	MAG EC_BadTcType(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45251	ALL	NONE
YRP0B0C4	N	MAG EC_PktTooLong(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45252	ALL	NONE
YRP0B0C5	N	MAG EC_PktTooShrt(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45253	ALL	NONE
YRP0B0C6	N	MAG EC_PktTrunc(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45254	ALL	NONE
YRP0B0C7	N	MAG EC_InvalidSid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45255	ALL	NONE
YRP0B0C8	N	MAG EC_BadScncMode(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45256	ALL	NONE
YRP0B0C9	N	MAG EC_LinkRst(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45257	ALL	NONE
YRP0B0CA	N	MAG EC_LinkRstsMdm(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45258	ALL	NONE
YRP0B0CB	N	MAG EC_LinkRstsHgh(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45259	ALL	NONE
YRP0B0CC	N	MAG EC_HkPktNotValid(unit)	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	45260	ALL	NONE
YRP0B0CE	N	MAG EC_NormalMode	7	ETM00501EVNM	83	7	SPACE	AUTH	OTHER	NONE	18	18	1	1	45262	ALL	NONE
YRP0B0CF	N	MAG EC_TcTxFailed	7	ETM00502EVEW	83	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45261	ALL	NONE
YRP0B101	N	IES HVPS OFF ELC	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45313	ALL	NONE
YRP0B102	N	IES HVPS OFF ION	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45314	ALL	NONE
YRP0B103	N	IES HVPS OFF Missed AQP	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45315	ALL	NONE
YRP0B104	N	IES HVPS OFF Bad Monitor	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45316	ALL	NONE
YRP0B105	N	IES HVPS OFF Plug Change	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45317	ALL	NONE
YRP0B106	N	IES HVPS OFF Bad ELCMCP	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45318	ALL	NONE
YRP0B107	N	IES HVPS OFF Bad IONMCP	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45319	ALL	NONE
YRP0B108	N	IES HVPS OFF Bad HVMON	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45320	ALL	NONE
YRP0B110	N	IES Bad PROM	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45328	ALL	NONE
YRP0B12C	N	IES Bad EEPROM Page C	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45356	ALL	NONE
YRP0B12D	N	IES Bad EEPROM Page D	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45357	ALL	NONE
YRP0B12E	N	IES Bad EEPROM Page E	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45358	ALL	NONE
YRP0B12F	N	IES Bad EEPROM Page F	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45359	ALL	NONE
YRP0B130	N	IES Bad RAM Page 0	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45360	ALL	NONE
YRP0B131	N	IES Bad RAM Page 1	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45361	ALL	NONE
YRP0B132	N	IES Bad RAM Page 2	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45362	ALL	NONE
YRP0B133	N	IES Bad RAM Page 3	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45363	ALL	NONE
YRP0B134	N	IES Bad RAM Page 4	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45364	ALL	NONE

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	INIT_STATE	OBSW_GENER	OBSW_DECOD	MINLENGTH	MAXLENGTH	FREQGEN	PHASEGEN	SDFVALUE	STARTDATA	COMPRESSION
YRP0B135	N	IES Bad RAM Page 5	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45365	ALL	NONE
YRP0B136	N	IES Bad RAM Page 6	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45366	ALL	NONE
YRP0B137	N	IES Bad RAM Page 7	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45367	ALL	NONE
YRP0B140	N	IES Memory Service Error	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45376	ALL	NONE
YRP0B150	N	IES Memory Service Info	7	ETM00501EVNM	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45392	ALL	NONE
YRP0B161	N	IES SysErr Bad Monitor	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45409	ALL	NONE
YRP0B162	N	IES SysErr Plug Change	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45410	ALL	NONE
YRP0B163	N	IES SysErr +/- 5V	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45411	ALL	NONE
YRP0B164	N	IES SysErr +/- 12V	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45412	ALL	NONE
YRP0B170	N	IES CmdErr Rejected Cmd	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45424	ALL	NONE
YRP0B171	N	IES CmdErr Illegal Cmd	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45425	ALL	NONE
YRP0B172	N	IES CmdErr Invalid Cmd	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45426	ALL	NONE
YRP0B173	N	IES CmdErr LinkPkt Err	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45427	ALL	NONE
YRP0B174	N	IES CmdErr CmdLength	7	ETM00503EVEG	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45428	ALL	NONE
YRP0B181	N	IES PIU Link Error	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45441	ALL	NONE
YRP0B190	N	IES Acquisition Error	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45456	ALL	NONE
YRP0B1A0	N	IES Sequence Error	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45472	ALL	NONE
YRP0B1B0	N	IES Missed AQP	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45488	ALL	NONE
YRP0B1C1	N	IES Dust Gia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45505	ALL	NONE
YRP0B1C2	N	IES Dust Prs	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45506	ALL	NONE
YRP0B1C3	N	IES Dust PrsGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45507	ALL	NONE
YRP0B1C4	N	IES Dust Alrt	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45508	ALL	NONE
YRP0B1C5	N	IES Dust AlrtGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45509	ALL	NONE
YRP0B1C6	N	IES Dust AlrtPrs	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45510	ALL	NONE
YRP0B1C7	N	IES Dust AlrtPrsGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45511	ALL	NONE
YRP0B1C8	N	IES Dust Thrst	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45512	ALL	NONE
YRP0B1C9	N	IES Dust ThrstGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45513	ALL	NONE
YRP0B1CA	N	IES Dust ThrstPrs	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45514	ALL	NONE
YRP0B1CB	N	IES Dust ThrstPrsGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45515	ALL	NONE
YRP0B1CC	N	IES Dust ThrstAlrt	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45516	ALL	NONE
YRP0B1CD	N	IES Dust ThrstAlrtGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45517	ALL	NONE
YRP0B1CE	N	IES Dust ThrstAlrtPrs	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45518	ALL	NONE
YRP0B1CF	N	IES Dust ThrstAlrtPrsGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45519	ALL	NONE
YRP0B1D1	N	IES Pres Gia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45521	ALL	NONE
YRP0B1D2	N	IES Pres Prs	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45522	ALL	NONE
YRP0B1D3	N	IES Pres PrsGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45523	ALL	NONE
YRP0B1D4	N	IES Pres Alrt	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45524	ALL	NONE
YRP0B1D5	N	IES Pres AlrtGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45525	ALL	NONE
YRP0B1D6	N	IES Pres AlrtPrs	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45526	ALL	NONE
YRP0B1D7	N	IES Pres AlrtPrsGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45527	ALL	NONE
YRP0B1D8	N	IES Pres Thrst	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45528	ALL	NONE
YRP0B1D9	N	IES Pres ThrstGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45529	ALL	NONE
YRP0B1DA	N	IES Pres ThrstPrs	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45530	ALL	NONE
YRP0B1DB	N	IES Pres ThrstPrsGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45531	ALL	NONE

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	INIT_STATE	OBSW_GENER	OBSW_DECOD	MINLENGTH	MAXLENGTH	FREQGEN	PHASEGEN	SDFVALUE	STARTDATA	COMPRESSION
YRP0B1DC	N	IES Pres ThrstAlrt	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45532	ALL	NONE
YRP0B1DD	N	IES Pres ThrstAlrtGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45533	ALL	NONE
YRP0B1DE	N	IES Pres ThrstAlrtPrs	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45534	ALL	NONE
YRP0B1DF	N	IES Pres ThrstAlrtPrsGia	7	ETM00502EVEW	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45535	ALL	NONE
YRP0B1F0	N	IES Info Time Marker	7	ETM00501EVNM	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45552	ALL	NONE
YRP0B1F1	N	IES Info Page Info	7	ETM00501EVNM	84	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45553	ALL	NONE
YRP0B200	N	ICA Command error	7	ETM00502EVEW	85	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45568	ALL	NONE
YRP0B201	N	ICA Patch/reprog. OK	7	ETM00501EVNM	85	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45569	ALL	NONE
YRP0B202	N	ICA Patch/reprog. Error	7	ETM00503EVEG	85	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45570	ALL	NONE
YRP0B203	N	ICA Internal/reprog. OK	7	ETM00501EVNM	85	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45571	ALL	NONE
YRP0B204	N	ICA Internal/reprog. Error	7	ETM00504EVEO	85	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45572	ALL	NONE
YRP0B301	N	LAP Event	7	ETM00501EVNM	86	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	45825	ALL	NONE
YRP0B501	N	EC_MAG_BadSensorEvent	7	ETM00502EVEW	88	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	46337	ALL	NONE
YRP0B502	N	EC_MAG_BadSidEvent	7	ETM00502EVEW	88	7	SPACE	AUTH	OTHER	NONE	20	20	1	1	46338	ALL	NONE
YRP0B503	N	EC_MAG_CounterUnsync	7	ETM00502EVEW	88	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	46339	ALL	NONE
YRP0B504	N	EC_MAG_TaskFill	7	ETM00502EVEW	88	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	46340	ALL	NONE
YRP0B505	N	EC_MAG_MissedSamples	7	ETM00502EVEW	88	7	SPACE	AUTH	OTHER	NONE	22	22	1	1	46341	ALL	NONE
YRP10325	N	IES HK SID 1	7	ETM00325HKPK	84	4	SPACE	AUTH	OTHER	NONE	42	42	1	1	1	ALL	NONE
YRP10606	N	IES Memory Dump Report	7	ETM00606MMDP	84	9	SPACE	AUTH	OTHER	NONE	26	4112	1	1	130	ALL	NONE
YRP10610	N	IES Memory Check Report	7	ETM00610MMCK	84	7	SPACE	AUTH	OTHER	NONE	26	26	1	1	130	ALL	NONE
YRP12003	N	IES Science	7	ETM02003SDRP	84	12	SPACE	AUTH	OTHER	NONE	214	2026	1	1		ALL	NONE
YRP20325	N	ICA HK WORD	7	ETM00325HKPK	85	4	SPACE	AUTH	OTHER	NONE	42	42	1	1	1	ALL	NONE
YRP20606	N	ICA Memory Dump Report	7	ETM00606MMDP	85	9	SPACE	AUTH	OTHER	NONE	26	4112	1	1	130	ALL	NONE
YRP20610	N	ICA Memory Check Report	7	ETM00610MMCK	85	7	SPACE	AUTH	OTHER	NONE	26	26	1	1	130	ALL	NONE
YRP22003	N	ICA Science	7	ETM02003SDRP	85	12	SPACE	AUTH	OTHER	NONE	634	4108	1	1		ALL	NONE
YRP30325	N	LAP HK SID 1	7	ETM00325HKPK	86	4	SPACE	AUTH	OTHER	NONE	30	30	1	1	1	ALL	NONE
YRP30606	N	LAP Memory Dump Report	7	ETM00606MMDP	86	9	SPACE	AUTH	OTHER	NONE	26	4112	1	1	130	ALL	NONE
YRP30610	N	LAP Memory Check Report	7	ETM00610MMCK	86	7	SPACE	AUTH	OTHER	NONE	26	26	1	1	130	ALL	NONE
YRP32003	N	LAP Science	7	ETM02003SDRP	86	12	SPACE	AUTH	OTHER	NONE	208	3004	1	1		ALL	NONE
YRP40325	N	MIP HK SID 1	7	ETM00325HKPK	87	4	SPACE	AUTH	OTHER	NONE	32	32	1	1	1	ALL	NONE
YRP42003	N	MIP Science	7	ETM02003SDRP	87	12	SPACE	AUTH	OTHER	NONE	34	1216	1	1		ALL	NONE
YRP50325	N	MAG HK SID 1	7	ETM00325HKPK	88	4	SPACE	AUTH	OTHER	NONE	34	34	1	1	1	ALL	NONE
YRP52003	N	MAG Science	7	ETM02003SDRP	88	12	SPACE	AUTH	OTHER	NONE	258	2530	1	1		ALL	NONE
YRPST001	N	PIU AcceptSuccess	7	ETM00101TCAS	83	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST002	N	PIU IncompletePacket	7	ETM00102TCAF	83	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	1	ALL	NONE
YRPST003	N	PIU IncorrectChecksum	7	ETM00102TCAF	83	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	2	ALL	NONE
YRPST004	N	PIU Incorrect APID	7	ETM00102TCAF	83	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	3	ALL	NONE
YRPST005	N	PIU InvalidCmdCode	7	ETM00102TCAF	83	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	4	ALL	NONE
YRPST006	N	PIU PbExecTime	7	ETM00102TCAF	83	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	5	ALL	NONE
YRPST007	N	PIU DataFieldInconsistent	7	ETM00102TCAF	83	1	SPACE	AUTH	OTHER	NONE	26	26	1	1	6	ALL	NONE
YRPST008	N	PIU ExeSuccess	7	ETM00107TCES	83	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST009	N	PIU ExeFailure	7	ETM00108TCEF	83	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	1	ALL	NONE
YRPST101	N	IES AcceptSuccess	7	ETM00101TCAS	84	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST102	N	IES IncompletePacket	7	ETM00102TCAF	84	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	1	ALL	NONE

NAME	GCPASS	LNAME	USAGE	PKGE_NAME	PID	PCKCATEG	SCOPE	INIT_STATE	OBSW_GENER	OBSW_DECOD	MINLENGTH	MAXLENGTH	FREQGEN	PHASEGEN	SDFVALUE	STARTDATA	COMPRESSION
YRPST103	N	IES IncorrectChecksum	7	ETM00102TCAF	84	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	2	ALL	NONE
YRPST104	N	IES Incorrect APID	7	ETM00102TCAF	84	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	3	ALL	NONE
YRPST105	N	IES InvalidCmdCode	7	ETM00102TCAF	84	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	4	ALL	NONE
YRPST106	N	IES PbExecTime	7	ETM00102TCAF	84	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	5	ALL	NONE
YRPST107	N	IES DataFieldInconsistent	7	ETM00102TCAF	84	1	SPACE	AUTH	OTHER	NONE	26	26	1	1	6	ALL	NONE
YRPST108	N	IES ExeSuccess	7	ETM00107TCES	84	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST109	N	IES ExeFailure	7	ETM00108TCEF	84	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	1	ALL	NONE
YRPST201	N	ICA AcceptSuccess	7	ETM00101TCAS	85	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST202	N	ICA IncompletePacket	7	ETM00102TCAF	85	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	1	ALL	NONE
YRPST203	N	ICA IncorrectChecksum	7	ETM00102TCAF	85	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	2	ALL	NONE
YRPST204	N	ICA Incorrect APID	7	ETM00102TCAF	85	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	3	ALL	NONE
YRPST205	N	ICA InvalidCmdCode	7	ETM00102TCAF	85	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	4	ALL	NONE
YRPST206	N	ICA PbExecTime	7	ETM00102TCAF	85	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	5	ALL	NONE
YRPST207	N	ICA DataFieldInconsistent	7	ETM00102TCAF	85	1	SPACE	AUTH	OTHER	NONE	26	26	1	1	6	ALL	NONE
YRPST208	N	ICA ExeSuccess	7	ETM00107TCES	85	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST209	N	ICA ExeFailure	7	ETM00108TCEF	85	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	1	ALL	NONE
YRPST301	N	LAP AcceptSuccess	7	ETM00101TCAS	86	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST302	N	LAP IncompletePacket	7	ETM00102TCAF	86	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	1	ALL	NONE
YRPST303	N	LAP IncorrectChecksum	7	ETM00102TCAF	86	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	2	ALL	NONE
YRPST304	N	LAP Incorrect APID	7	ETM00102TCAF	86	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	3	ALL	NONE
YRPST305	N	LAP InvalidCmdCode	7	ETM00102TCAF	86	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	4	ALL	NONE
YRPST306	N	LAP PbExecTime	7	ETM00102TCAF	86	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	5	ALL	NONE
YRPST307	N	LAP DataFieldInconsistent	7	ETM00102TCAF	86	1	SPACE	AUTH	OTHER	NONE	26	26	1	1	6	ALL	NONE
YRPST308	N	ICA ExeSuccess	7	ETM00107TCES	86	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST309	N	ICA ExeFailure	7	ETM00108TCEF	86	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	1	ALL	NONE
YRPST401	N	MIP AcceptSuccess	7	ETM00101TCAS	87	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST402	N	MIP IncompletePacket	7	ETM00102TCAF	87	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	1	ALL	NONE
YRPST403	N	MIP IncorrectChecksum	7	ETM00102TCAF	87	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	2	ALL	NONE
YRPST404	N	MIP Incorrect APID	7	ETM00102TCAF	87	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	3	ALL	NONE
YRPST405	N	MIP InvalidCmdCode	7	ETM00102TCAF	87	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	4	ALL	NONE
YRPST406	N	MIP PbExecTime	7	ETM00102TCAF	87	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	5	ALL	NONE
YRPST407	N	MIP DataFieldInconsistent	7	ETM00102TCAF	87	1	SPACE	AUTH	OTHER	NONE	26	26	1	1	6	ALL	NONE
YRPST501	N	MAG AcceptSuccess	7	ETM00101TCAS	88	1	SPACE	AUTH	OTHER	NONE			1	1		ALL	NONE
YRPST502	N	MAG IncompletePacket	7	ETM00102TCAF	88	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	1	ALL	NONE
YRPST503	N	MAG IncorrectChecksum	7	ETM00102TCAF	88	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	2	ALL	NONE
YRPST504	N	MAG Incorrect APID	7	ETM00102TCAF	88	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	3	ALL	NONE
YRPST505	N	MAG InvalidCmdCode	7	ETM00102TCAF	88	1	SPACE	AUTH	OTHER	NONE	28	28	1	1	4	ALL	NONE
YRPST506	N	MAG PbExecTime	7	ETM00102TCAF	88	1	SPACE	AUTH	OTHER	NONE	24	24	1	1	5	ALL	NONE
YRPST507	N	MAG DataFieldInconsistent	7	ETM00102TCAF	88	1	SPACE	AUTH	OTHER	NONE	26	26	1	1	6	ALL	NONE

NAME	NOTE	EARRANGED	CALCSIZE
YRP00325		N	304
YRP00606		N	16576
YRP00610		N	208
YRP01702		N	128
YRP0AE00		N	192
YRP0AE01		N	176
YRP0AE40		N	144
YRP0AE41		N	144
YRP0AE42		N	176
YRP0AE43		N	176
YRP0AE80		N	144
YRP0AE81		N	144
YRP0AE82		N	192
YRP0AE83		N	192
YRP0AE84		N	160
YRP0AEC0		N	160
YRP0AEC1		N	160
YRP0AEC2		N	144
YRP0AEC3		N	208
YRP0AEC4		N	208
YRP0AF00		N	192
YRP0AF01		N	192
YRP0AF02		N	192
YRP0AF03		N	208
YRP0AF04		N	208
YRP0AF05		N	160
YRP0AF40		N	208
YRP0AF41		N	144
YRP0AF42		N	144
YRP0AF43		N	144
YRP0AFC0		N	144
YRP0AFC1		N	144
YRP0AFC2		N	144
YRP0AFC3		N	144
YRP0AFC4		N	144
YRP0AFC5		N	144
YRP0AFC6		N	144
YRP0AFC7		N	144
YRP0AFC8		N	144
YRP0AFC9		N	144
YRP0AFCA		N	144
YRP0AFCB		N	144
YRP0AFCC		N	160
YRP0AFCD		N	176
YRP0AFCE		N	144
YRP0B000		N	144
YRP0B001		N	144
YRP0B002		N	144
YRP0B003		N	144
YRP0B004		N	144
YRP0B005		N	144
YRP0B006		N	144
YRP0B007		N	144
YRP0B008		N	144
YRP0B009		N	144
YRP0B00A		N	144
YRP0B00B		N	144
YRP0B00C		N	160
YRP0B00D		N	176
YRP0B00E		N	144
YRP0B040		N	144
YRP0B041		N	144
YRP0B042		N	144
YRP0B043		N	144
YRP0B044		N	144
YRP0B045		N	144
YRP0B046		N	144
YRP0B047		N	144
YRP0B048		N	144
YRP0B049		N	144
YRP0B04A		N	144
YRP0B04B		N	144
YRP0B04C		N	160
YRP0B04D		N	176
YRP0B04E		N	144
YRP0B080		N	144
YRP0B081		N	144

NAME	NOTE	EARRANGED	CALCSIZE
YRP0B082		N	144
YRP0B083		N	144
YRP0B084		N	144
YRP0B085		N	144
YRP0B086		N	144
YRP0B087		N	144
YRP0B088		N	144
YRP0B089		N	144
YRP0B08A		N	144
YRP0B08B		N	144
YRP0B08C		N	160
YRP0B08D		N	176
YRP0B08E		N	144
YRP0B0C0		N	144
YRP0B0C1		N	144
YRP0B0C2		N	144
YRP0B0C3		N	144
YRP0B0C4		N	144
YRP0B0C5		N	144
YRP0B0C6		N	144
YRP0B0C7		N	144
YRP0B0C8		N	144
YRP0B0C9		N	144
YRP0B0CA		N	144
YRP0B0CB		N	144
YRP0B0CC		N	160
YRP0B0CE		N	144
YRP0B0CF		N	160
YRP0B101		N	144
YRP0B102		N	144
YRP0B103		N	144
YRP0B104		N	144
YRP0B105		N	144
YRP0B106		N	160
YRP0B107		N	160
YRP0B108		N	160
YRP0B110		N	176
YRP0B12C		N	176
YRP0B12D		N	176
YRP0B12E		N	176
YRP0B12F		N	176
YRP0B130		N	176
YRP0B131		N	176
YRP0B132		N	176
YRP0B133		N	176
YRP0B134		N	176
YRP0B135		N	176
YRP0B136		N	176
YRP0B137		N	176
YRP0B140		N	176
YRP0B150		N	160
YRP0B161		N	176
YRP0B162		N	176
YRP0B163		N	176
YRP0B164		N	176
YRP0B170		N	176
YRP0B171		N	176
YRP0B172		N	176
YRP0B173		N	176
YRP0B174		N	176
YRP0B181		N	176
YRP0B190		N	144
YRP0B1A0		N	176
YRP0B1B0		N	144
YRP0B1C1		N	176
YRP0B1C2		N	176
YRP0B1C3		N	176
YRP0B1C4		N	176
YRP0B1C5		N	176
YRP0B1C6		N	176
YRP0B1C7		N	176
YRP0B1C8		N	176
YRP0B1C9		N	176
YRP0B1CA		N	176
YRP0B1CB		N	176
YRP0B1CC		N	176
YRP0B1CD		N	176
YRP0B1CE		N	176
YRP0B1CF		N	176

NAME	NOTE	EARRANGED	CALCSIZE
YRP0B1D1		N	176
YRP0B1D2		N	176
YRP0B1D3		N	176
YRP0B1D4		N	176
YRP0B1D5		N	176
YRP0B1D6		N	176
YRP0B1D7		N	176
YRP0B1D8		N	176
YRP0B1D9		N	176
YRP0B1DA		N	176
YRP0B1DB		N	176
YRP0B1DC		N	176
YRP0B1DD		N	176
YRP0B1DE		N	176
YRP0B1DF		N	176
YRP0B1F0		N	176
YRP0B1F1		N	176
YRP0B200		N	176
YRP0B201		N	176
YRP0B202		N	176
YRP0B203		N	176
YRP0B204		N	0
YRP0B301		N	176
YRP0B501		N	160
YRP0B502		N	160
YRP0B503		N	176
YRP0B504		N	176
YRP0B505		N	176
YRP10325		N	336
YRP10606		N	16576
YRP10610		N	208
YRP12003		N	128
YRP20325		N	336
YRP20606		N	16576
YRP20610		N	208
YRP22003		N	128
YRP30325		N	240
YRP30606		N	16576
YRP30610		N	208
YRP32003		N	128
YRP40325		N	256
YRP42003		N	128
YRP50325		N	272
YRP52003		N	128
YRPST001		N	160
YRPST002	Acceptance Failure Report: Failure Code 1. Incomplete Packet within time-out	N	224
YRPST003	Acceptance Failure Report: Failure Code 2. Incorrect Checksum	N	224
YRPST004	Acceptance Failure Report: Failure Code 3. Incorrect APID	N	192
YRPST005	Acceptance Failure Report: Failure Code 4. Invalid Command Code.	N	224
YRPST006	Acceptance Failure Report: Failure Code 5. Command can not be executed at this time	N	192
YRPST007	Acceptance Failure Report: Failure Code 6. Data Field Inconsistent	N	208
YRPST008	Execution Completeion Success Report	N	160
YRPST009	Execution Failure Report	N	192
YRPST101		N	160
YRPST102	Acceptance Failure Report: Failure Code 1. Incomplete Packet within time-out	N	224
YRPST103	Acceptance Failure Report: Failure Code 2. Incorrect Checksum	N	224
YRPST104	Acceptance Failure Report: Failure Code 3. Incorrect APID	N	192
YRPST105	Acceptance Failure Report: Failure Code 4. Invalid Command Code.	N	224
YRPST106	Acceptance Failure Report: Failure Code 5. Command can not be executed at this time	N	192
YRPST107	Acceptance Failure Report: Failure Code 6. Data Field Inconsistent	N	208
YRPST108	Execution Completeion Success Report	N	160
YRPST109	Execution Failure Report	N	192
YRPST201		N	160
YRPST202	Acceptance Failure Report: Failure Code 1. Incomplete Packet within time-out	N	224
YRPST203	Acceptance Failure Report: Failure Code 2. Incorrect Checksum	N	224
YRPST204	Acceptance Failure Report: Failure Code 3. Incorrect APID	N	192
YRPST205	Acceptance Failure Report: Failure Code 4. Invalid Command Code.	N	224
YRPST206	Acceptance Failure Report: Failure Code 5. Command can not be executed at this time	N	192
YRPST207	Acceptance Failure Report: Failure Code 6. Data Field Inconsistent	N	208
YRPST208	Execution Completeion Success Report	N	160
YRPST209	Execution Failure Report	N	192
YRPST301		N	160
YRPST302	Acceptance Failure Report: Failure Code 1. Incomplete Packet within time-out	N	224
YRPST303	Acceptance Failure Report: Failure Code 2. Incorrect Checksum	N	224
YRPST304	Acceptance Failure Report: Failure Code 3. Incorrect APID	N	192
YRPST305	Acceptance Failure Report: Failure Code 4. Invalid Command Code.	N	224
YRPST306	Acceptance Failure Report: Failure Code 5. Command can not be executed at this time	N	192
YRPST307	Acceptance Failure Report: Failure Code 6. Data Field Inconsistent	N	208
YRPST308	Execution Completeion Success Report	N	160

NAME	NOTE	EARRANGED	CALCSIZE
YRPST309	Execution Failure Report	N	192
YRPST401		N	160
YRPST402	Acceptance Failure Report: Failure Code 1. Incomplete Packet within time-out	N	224
YRPST403	Acceptance Failure Report: Failure Code 2. Incorrect Checksum	N	224
YRPST404	Acceptance Failure Report: Failure Code 3. Incorrect APID	N	192
YRPST405	Acceptance Failure Report: Failure Code 4. Invalid Command Code.	N	224
YRPST406	Acceptance Failure Report: Failure Code 5. Command can not be executed at this time	N	192
YRPST407	Acceptance Failure Report: Failure Code 6. Data Field Inconsistent	N	208
YRPST501		N	160
YRPST502	Acceptance Failure Report: Failure Code 1. Incomplete Packet within time-out	N	224
YRPST503	Acceptance Failure Report: Failure Code 2. Incorrect Checksum	N	224
YRPST504	Acceptance Failure Report: Failure Code 3. Incorrect APID	N	192
YRPST505	Acceptance Failure Report: Failure Code 4. Invalid Command Code.	N	224
YRPST506	Acceptance Failure Report: Failure Code 5. Command can not be executed at this time	N	192
YRPST507	Acceptance Failure Report: Failure Code 6. Data Field Inconsistent	N	208

6.2.2 C_TMPCK_ELT

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRP00325	1	PARAM	128	16	1	16			NRPA03A0
YRP00325	2	PARAM	144	16	1	16			NRPA0300
YRP00325	3	PARAM	160	16	1	16			NRPA0310
YRP00325	4	PARAM	176	16	1	16			NRPA0320
YRP00325	5	PARAM	192	16	1	16			NRPA0330
YRP00325	6	PARAM	208	16	1	16			NRPA0340
YRP00325	7	PARAM	224	16	1	16			NRPA0350
YRP00325	8	PARAM	240	16	1	16			NRPA0360
YRP00325	9	PARAM	256	16	1	16			NRPA0370
YRP00325	10	PARAM	272	16	1	16			NRPA0380
YRP00325	11	PARAM	288	16	1	16			NRPA0390
YRP00325	0	BLOCK	0	128	1	128	WRP08304	PKBM	
YRP00606	1	PARAM	128	16	1	16			NRPA8100
YRP00606	4	PARAM	192	16	1024	16			NRPA8400
YRP00606	2	PARAM	144	32	1	32			NRPA8200
YRP00606	0	BLOCK	0	128	1	128	WRP08309	PKBM	
YRP00606	3	PARAM	176	16	1	16			NRPA8300
YRP00610	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP00610	1	PARAM	128	16	1	16			NRPA8100
YRP00610	2	PARAM	144	32	1	32			NRPA8200
YRP00610	3	PARAM	176	16	1	16			NRPA8300
YRP00610	4	PARAM	192	16	1	16			NRPA8500
YRP01702	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE00	4	PARAM	176	16	1	16			NRPA0514
YRP0AE00	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE00	1	PARAM	128	16	1	16			NRPA0500
YRP0AE00	2	PARAM	144	16	1	16			NRPA0512
YRP0AE00	3	PARAM	160	16	1	16			NRPA0513
YRP0AE01	1	PARAM	128	16	1	16			NRPA0500
YRP0AE01	2	PARAM	144	16	1	16			NRPA0520
YRP0AE01	3	PARAM	160	16	1	16			NRPA0521
YRP0AE01	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE40	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE40	1	PARAM	128	16	1	16			NRPA0500
YRP0AE41	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE41	1	PARAM	128	16	1	16			NRPA0500
YRP0AE42	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE42	1	PARAM	128	16	1	16			NRPA0500
YRP0AE42	2	PARAM	144	16	1	16			NRPA0522
YRP0AE42	3	PARAM	160	16	1	16			NRPA0523
YRP0AE43	2	PARAM	144	16	1	16			NRPA0522
YRP0AE43	3	PARAM	160	16	1	16			NRPA0523
YRP0AE43	1	PARAM	128	16	1	16			NRPA0500
YRP0AE43	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE80	1	PARAM	128	16	1	16			NRPA0500
YRP0AE80	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE81	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE81	1	PARAM	128	16	1	16			NRPA0500
YRP0AE82	1	PARAM	128	16	1	16			NRPA0500
YRP0AE82	4	PARAM	176	16	1	16			NRPA0524
YRP0AE82	2	PARAM	144	16	1	16			NRPA0501
YRP0AE82	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE82	3	PARAM	160	16	1	16			NRPA0502
YRP0AE83	2	PARAM	144	48	1	48			NRPA0503
YRP0AE83	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE83	1	PARAM	128	16	1	16			NRPA0500
YRP0AE84	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AE84	2	PARAM	144	16	1	16			NRPA0525
YRP0AE84	1	PARAM	128	16	1	16			NRPA0500
YRP0AEC0	1	PARAM	128	16	1	16			NRPA0500
YRP0AEC0	2	PARAM	144	16	1	16			NRPA0505
YRP0AEC0	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AEC1	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AEC1	1	PARAM	128	16	1	16			NRPA0500
YRP0AEC1	2	PARAM	144	16	1	16			NRPA0511
YRP0AEC2	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AEC2	1	PARAM	128	16	1	16			NRPA0500
YRP0AEC3	5	PARAM	192	16	1	16			NRPA0528
YRP0AEC3	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AEC3	1	PARAM	128	16	1	16			NRPA0500
YRP0AEC3	2	PARAM	144	16	1	16			NRPA0525

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRP0AEC3	3	PARAM	160	16	1	16			NRPA0526
YRP0AEC3	4	PARAM	176	16	1	16			NRPA0527
YRP0AEC4	1	PARAM	128	16	1	16			NRPA0500
YRP0AEC4	2	PARAM	144	16	1	16			NRPA0525
YRP0AEC4	3	PARAM	160	16	1	16			NRPA0526
YRP0AEC4	4	PARAM	176	16	1	16			NRPA0527
YRP0AEC4	5	PARAM	192	16	1	16			NRPA0528
YRP0AEC4	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF00	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF00	1	PARAM	128	16	1	16			NRPA0500
YRP0AF00	2	PARAM	144	16	1	16			NRPA0502
YRP0AF00	3	PARAM	160	16	1	16			NRPA0515
YRP0AF00	4	PARAM	176	16	1	16			NRPA0516
YRP0AF01	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF01	1	PARAM	128	16	1	16			NRPA0500
YRP0AF01	3	PARAM	160	16	1	16			NRPA0515
YRP0AF01	4	PARAM	176	16	1	16			NRPA0517
YRP0AF01	2	PARAM	144	16	1	16			NRPA0502
YRP0AF02	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF02	1	PARAM	128	16	1	16			NRPA0500
YRP0AF02	2	PARAM	144	16	1	16			NRPA0502
YRP0AF02	3	PARAM	160	16	1	16			NRPA0515
YRP0AF02	4	PARAM	176	16	1	16			NRPA0516
YRP0AF03	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF03	1	PARAM	128	16	1	16			NRPA0500
YRP0AF03	2	PARAM	144	16	1	16			NRPA0502
YRP0AF03	3	PARAM	160	16	1	16			NRPA0515
YRP0AF03	4	PARAM	176	32	1	32			NRPA0518
YRP0AF04	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF04	5	PARAM	192	16	1	16			NRPA0519
YRP0AF04	4	PARAM	176	16	1	16			NRPA0529
YRP0AF04	3	PARAM	160	16	1	16			NRPA0515
YRP0AF04	1	PARAM	128	16	1	16			NRPA0500
YRP0AF04	2	PARAM	144	16	1	16			NRPA0502
YRP0AF05	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF05	1	PARAM	128	16	1	16			NRPA0500
YRP0AF05	2	PARAM	144	16	1	16			NRPA0525
YRP0AF40	5	PARAM	192	16	1	16			NRPA0509
YRP0AF40	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF40	1	PARAM	128	16	1	16			NRPA0500
YRP0AF40	2	PARAM	144	16	1	16			NRPA0506
YRP0AF40	3	PARAM	160	16	1	16			NRPA0507
YRP0AF40	4	PARAM	176	16	1	16			NRPA0508
YRP0AF41	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF41	1	PARAM	128	16	1	16			NRPA0500
YRP0AF42	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF42	1	PARAM	128	16	1	16			NRPA0500
YRP0AF43	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AF43	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC0	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC0	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC1	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC1	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC2	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC2	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC3	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC3	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC4	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC4	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC5	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC5	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC6	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC6	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC7	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC7	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC8	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC8	1	PARAM	128	16	1	16			NRPA0500
YRP0AFC9	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFC9	1	PARAM	128	16	1	16			NRPA0500
YRP0AFCA	1	PARAM	128	16	1	16			NRPA0500
YRP0AFCA	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFCB	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFCB	1	PARAM	128	16	1	16			NRPA0500
YRP0AFCC	2	PARAM	144	16	1	16			NRPA0510
YRP0AFCC	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFCC	1	PARAM	128	16	1	16			NRPA0500
YRP0AFCD	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0AFCD	1	PARAM	128	16	1	16			NRPA0500
YRP0AFCD	2	PARAM	144	16	1	16			NRPA0502

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRP0AFCD	3	PARAM	160	16	1	16			NRPA0515
YRP0AFCE	1	PARAM	128	16	1	16			NRPA0500
YRP0AFCE	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B000	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B000	1	PARAM	128	16	1	16			NRPA0500
YRP0B001	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B001	1	PARAM	128	16	1	16			NRPA0500
YRP0B002	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B002	1	PARAM	128	16	1	16			NRPA0500
YRP0B003	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B003	1	PARAM	128	16	1	16			NRPA0500
YRP0B004	1	PARAM	128	16	1	16			NRPA0500
YRP0B004	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B005	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B005	1	PARAM	128	16	1	16			NRPA0500
YRP0B006	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B006	1	PARAM	128	16	1	16			NRPA0500
YRP0B007	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B007	1	PARAM	128	16	1	16			NRPA0500
YRP0B008	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B008	1	PARAM	128	16	1	16			NRPA0500
YRP0B009	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B009	1	PARAM	128	16	1	16			NRPA0500
YRP0B00A	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B00A	1	PARAM	128	16	1	16			NRPA0500
YRP0B00B	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B00B	1	PARAM	128	16	1	16			NRPA0500
YRP0B00C	2	PARAM	144	16	1	16			NRPA0510
YRP0B00C	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B00C	1	PARAM	128	16	1	16			NRPA0500
YRP0B00D	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B00D	1	PARAM	128	16	1	16			NRPA0500
YRP0B00D	2	PARAM	144	16	1	16			NRPA0502
YRP0B00D	3	PARAM	160	16	1	16			NRPA0515
YRP0B00E	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B00E	1	PARAM	128	16	1	16			NRPA0500
YRP0B040	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B040	1	PARAM	128	16	1	16			NRPA0500
YRP0B041	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B041	1	PARAM	128	16	1	16			NRPA0500
YRP0B042	1	PARAM	128	16	1	16			NRPA0500
YRP0B042	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B043	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B043	1	PARAM	128	16	1	16			NRPA0500
YRP0B044	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B044	1	PARAM	128	16	1	16			NRPA0500
YRP0B045	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B045	1	PARAM	128	16	1	16			NRPA0500
YRP0B046	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B046	1	PARAM	128	16	1	16			NRPA0500
YRP0B047	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B047	1	PARAM	128	16	1	16			NRPA0500
YRP0B048	1	PARAM	128	16	1	16			NRPA0500
YRP0B048	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B049	1	PARAM	128	16	1	16			NRPA0500
YRP0B049	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B04A	1	PARAM	128	16	1	16			NRPA0500
YRP0B04A	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B04B	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B04B	1	PARAM	128	16	1	16			NRPA0500
YRP0B04C	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B04C	1	PARAM	128	16	1	16			NRPA0500
YRP0B04C	2	PARAM	144	16	1	16			NRPA0510
YRP0B04D	3	PARAM	160	16	1	16			NRPA0515
YRP0B04D	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B04D	1	PARAM	128	16	1	16			NRPA0500
YRP0B04D	2	PARAM	144	16	1	16			NRPA0502
YRP0B04E	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B04E	1	PARAM	128	16	1	16			NRPA0500
YRP0B080	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B080	1	PARAM	128	16	1	16			NRPA0500
YRP0B081	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B081	1	PARAM	128	16	1	16			NRPA0500
YRP0B082	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B082	1	PARAM	128	16	1	16			NRPA0500
YRP0B083	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B083	1	PARAM	128	16	1	16			NRPA0500
YRP0B084	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B084	1	PARAM	128	16	1	16			NRPA0500

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRP0B085	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B085	1	PARAM	128	16	1	16			NRPA0500
YRP0B086	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B086	1	PARAM	128	16	1	16			NRPA0500
YRP0B087	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B087	1	PARAM	128	16	1	16			NRPA0500
YRP0B088	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B088	1	PARAM	128	16	1	16			NRPA0500
YRP0B089	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B089	1	PARAM	128	16	1	16			NRPA0500
YRP0B08A	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B08A	1	PARAM	128	16	1	16			NRPA0500
YRP0B08B	1	PARAM	128	16	1	16			NRPA0500
YRP0B08B	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B08C	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B08C	1	PARAM	128	16	1	16			NRPA0500
YRP0B08C	2	PARAM	144	16	1	16			NRPA0510
YRP0B08D	3	PARAM	160	16	1	16			NRPA0515
YRP0B08D	2	PARAM	144	16	1	16			NRPA0502
YRP0B08D	1	PARAM	128	16	1	16			NRPA0500
YRP0B08D	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B08E	1	PARAM	128	16	1	16			NRPA0500
YRP0B08E	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C0	1	PARAM	128	16	1	16			NRPA0500
YRP0B0C0	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C1	1	PARAM	128	16	1	16			NRPA0500
YRP0B0C1	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C2	1	PARAM	128	16	1	16			NRPA0500
YRP0B0C2	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C3	1	PARAM	128	16	1	16			NRPA0500
YRP0B0C3	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C4	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C4	1	PARAM	128	16	1	16			NRPA0500
YRP0B0C5	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C5	1	PARAM	128	16	1	16			NRPA0500
YRP0B0C6	1	PARAM	128	16	1	16			NRPA0500
YRP0B0C6	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C7	1	PARAM	128	16	1	16			NRPA0500
YRP0B0C7	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C8	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C8	1	PARAM	128	16	1	16			NRPA0500
YRP0B0C9	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0C9	1	PARAM	128	16	1	16			NRPA0500
YRP0B0CA	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0CA	1	PARAM	128	16	1	16			NRPA0500
YRP0B0CB	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0CB	1	PARAM	128	16	1	16			NRPA0500
YRP0B0CC	1	PARAM	128	16	1	16			NRPA0500
YRP0B0CC	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0CC	2	PARAM	144	16	1	16			NRPA0510
YRP0B0CE	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0CE	1	PARAM	128	16	1	16			NRPA0500
YRP0B0CF	2	PARAM	144	16	1	16			NRPA0502
YRP0B0CF	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B0CF	1	PARAM	128	16	1	16			NRPA0500
YRP0B101	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B101	1	PARAM	128	16	1	16			NRPA0500
YRP0B102	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B102	1	PARAM	128	16	1	16			NRPA0500
YRP0B103	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B103	1	PARAM	128	16	1	16			NRPA0500
YRP0B104	1	PARAM	128	16	1	16			NRPA0500
YRP0B104	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B105	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B105	1	PARAM	128	16	1	16			NRPA0500
YRP0B106	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B106	1	PARAM	128	16	1	16			NRPA0500
YRP0B106	2	PARAM	144	16	1	16			NRPA150A
YRP0B107	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B107	1	PARAM	128	16	1	16			NRPA0500
YRP0B107	2	PARAM	144	16	1	16			NRPA150C
YRP0B108	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B108	1	PARAM	128	16	1	16			NRPA0500
YRP0B108	2	PARAM	144	16	1	16			NRPA150E
YRP0B110	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B110	3	PARAM	160	16	1	16			NRPA1511
YRP0B110	2	PARAM	144	16	1	16			NRPA1510
YRP0B110	1	PARAM	128	16	1	16			NRPA0500
YRP0B12C	0	BLOCK	0	128	1	128	WRP08307	PKBM	

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRP0B12C	1	PARAM	128	16	1	16			NRPA0500
YRP0B12C	2	PARAM	144	16	1	16			NRPA1510
YRP0B12C	3	PARAM	160	16	1	16			NRPA1511
YRP0B12D	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B12D	1	PARAM	128	16	1	16			NRPA0500
YRP0B12D	2	PARAM	144	16	1	16			NRPA1510
YRP0B12D	3	PARAM	160	16	1	16			NRPA1511
YRP0B12E	2	PARAM	144	16	1	16			NRPA1510
YRP0B12E	3	PARAM	160	16	1	16			NRPA1511
YRP0B12E	1	PARAM	128	16	1	16			NRPA0500
YRP0B12E	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B12F	1	PARAM	128	16	1	16			NRPA0500
YRP0B12F	2	PARAM	144	16	1	16			NRPA1510
YRP0B12F	3	PARAM	160	16	1	16			NRPA1511
YRP0B12F	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B130	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B130	1	PARAM	128	16	1	16			NRPA0500
YRP0B130	2	PARAM	144	16	1	16			NRPA1512
YRP0B130	3	PARAM	160	16	1	16			NRPA1513
YRP0B131	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B131	3	PARAM	160	16	1	16			NRPA1513
YRP0B131	2	PARAM	144	16	1	16			NRPA1512
YRP0B131	1	PARAM	128	16	1	16			NRPA0500
YRP0B132	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B132	1	PARAM	128	16	1	16			NRPA0500
YRP0B132	2	PARAM	144	16	1	16			NRPA1512
YRP0B132	3	PARAM	160	16	1	16			NRPA1513
YRP0B133	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B133	1	PARAM	128	16	1	16			NRPA0500
YRP0B133	2	PARAM	144	16	1	16			NRPA1512
YRP0B133	3	PARAM	160	16	1	16			NRPA1513
YRP0B134	1	PARAM	128	16	1	16			NRPA0500
YRP0B134	2	PARAM	144	16	1	16			NRPA1512
YRP0B134	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B134	3	PARAM	160	16	1	16			NRPA1513
YRP0B135	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B135	1	PARAM	128	16	1	16			NRPA0500
YRP0B135	2	PARAM	144	16	1	16			NRPA1512
YRP0B135	3	PARAM	160	16	1	16			NRPA1513
YRP0B136	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B136	1	PARAM	128	16	1	16			NRPA0500
YRP0B136	2	PARAM	144	16	1	16			NRPA1512
YRP0B136	3	PARAM	160	16	1	16			NRPA1513
YRP0B137	1	PARAM	128	16	1	16			NRPA0500
YRP0B137	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B137	3	PARAM	160	16	1	16			NRPA1513
YRP0B137	2	PARAM	144	16	1	16			NRPA1512
YRP0B140	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B140	1	PARAM	128	16	1	16			NRPA0500
YRP0B140	2	PARAM	144	16	1	16			NRPA1514
YRP0B140	3	PARAM	160	16	1	16			NRPA1515
YRP0B150	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B150	1	PARAM	128	16	1	16			NRPA0500
YRP0B150	2	PARAM	144	16	1	16			NRPA1516
YRP0B161	2	PARAM	144	16	1	16			NRPA1518
YRP0B161	3	PARAM	160	16	1	16			NRPA1530
YRP0B161	1	PARAM	128	16	1	16			NRPA0500
YRP0B161	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B162	1	PARAM	128	16	1	16			NRPA0500
YRP0B162	2	PARAM	144	16	1	16			NRPA1519
YRP0B162	3	PARAM	160	16	1	16			NRPA1531
YRP0B162	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B163	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B163	1	PARAM	128	16	1	16			NRPA0500
YRP0B163	2	PARAM	144	16	1	16			NRPA151A
YRP0B163	3	PARAM	160	16	1	16			NRPA151B
YRP0B164	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B164	3	PARAM	160	16	1	16			NRPA151D
YRP0B164	2	PARAM	144	16	1	16			NRPA151C
YRP0B164	1	PARAM	128	16	1	16			NRPA0500
YRP0B170	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B170	1	PARAM	128	16	1	16			NRPA0500
YRP0B170	2	PARAM	144	16	1	16			NRPA151E
YRP0B170	3	PARAM	160	16	1	16			NRPA151F
YRP0B171	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B171	1	PARAM	128	16	1	16			NRPA0500
YRP0B171	2	PARAM	144	16	1	16			NRPA151E
YRP0B171	3	PARAM	160	16	1	16			NRPA151F
YRP0B172	1	PARAM	128	16	1	16			NRPA0500

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRP0B172	2	PARAM	144	16	1	16			NRPA151E
YRP0B172	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B172	3	PARAM	160	16	1	16			NRPA151F
YRP0B173	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B173	1	PARAM	128	16	1	16			NRPA0500
YRP0B173	2	PARAM	144	16	1	16			NRPA1520
YRP0B173	3	PARAM	160	16	1	16			NRPA1521
YRP0B174	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B174	1	PARAM	128	16	1	16			NRPA0500
YRP0B174	2	PARAM	144	16	1	16			NRPA1520
YRP0B174	3	PARAM	160	16	1	16			NRPA1521
YRP0B181	1	PARAM	128	16	1	16			NRPA0500
YRP0B181	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B181	3	PARAM	160	16	1	16			NRPA1523
YRP0B181	2	PARAM	144	16	1	16			NRPA1522
YRP0B190	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B190	1	PARAM	128	16	1	16			NRPA0500
YRP0B1A0	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1A0	1	PARAM	128	16	1	16			NRPA0500
YRP0B1A0	2	PARAM	144	16	1	16			NRPA1524
YRP0B1A0	3	PARAM	160	16	1	16			NRPA1525
YRP0B1B0	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1B0	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C1	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C1	2	PARAM	144	16	1	16			NRPA1528
YRP0B1C1	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1C1	3	PARAM	160	16	1	16			NRPA1529
YRP0B1C2	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1C2	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C2	2	PARAM	144	16	1	16			NRPA1528
YRP0B1C2	3	PARAM	160	16	1	16			NRPA1529
YRP0B1C3	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1C3	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C3	2	PARAM	144	16	1	16			NRPA1528
YRP0B1C3	3	PARAM	160	16	1	16			NRPA1529
YRP0B1C4	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C4	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1C4	3	PARAM	160	16	1	16			NRPA1529
YRP0B1C4	2	PARAM	144	16	1	16			NRPA1528
YRP0B1C5	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1C5	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C5	2	PARAM	144	16	1	16			NRPA1528
YRP0B1C5	3	PARAM	160	16	1	16			NRPA1529
YRP0B1C6	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1C6	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C6	2	PARAM	144	16	1	16			NRPA1528
YRP0B1C6	3	PARAM	160	16	1	16			NRPA1529
YRP0B1C7	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C7	2	PARAM	144	16	1	16			NRPA1528
YRP0B1C7	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1C7	3	PARAM	160	16	1	16			NRPA1529
YRP0B1C8	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1C8	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C8	2	PARAM	144	16	1	16			NRPA1528
YRP0B1C8	3	PARAM	160	16	1	16			NRPA1529
YRP0B1C9	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1C9	1	PARAM	128	16	1	16			NRPA0500
YRP0B1C9	2	PARAM	144	16	1	16			NRPA1528
YRP0B1C9	3	PARAM	160	16	1	16			NRPA1529
YRP0B1CA	1	PARAM	128	16	1	16			NRPA0500
YRP0B1CA	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1CA	3	PARAM	160	16	1	16			NRPA1529
YRP0B1CA	2	PARAM	144	16	1	16			NRPA1528
YRP0B1CB	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1CB	1	PARAM	128	16	1	16			NRPA0500
YRP0B1CB	2	PARAM	144	16	1	16			NRPA1528
YRP0B1CB	3	PARAM	160	16	1	16			NRPA1529
YRP0B1CC	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1CC	1	PARAM	128	16	1	16			NRPA0500
YRP0B1CC	2	PARAM	144	16	1	16			NRPA1528
YRP0B1CC	3	PARAM	160	16	1	16			NRPA1529
YRP0B1CD	1	PARAM	128	16	1	16			NRPA0500
YRP0B1CD	2	PARAM	144	16	1	16			NRPA1528
YRP0B1CD	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1CD	3	PARAM	160	16	1	16			NRPA1529
YRP0B1CE	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1CE	1	PARAM	128	16	1	16			NRPA0500
YRP0B1CE	2	PARAM	144	16	1	16			NRPA1528
YRP0B1CE	3	PARAM	160	16	1	16			NRPA1529

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRP0B1CF	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1CF	1	PARAM	128	16	1	16			NRPA0500
YRP0B1CF	3	PARAM	160	16	1	16			NRPA1529
YRP0B1CF	2	PARAM	144	16	1	16			NRPA1528
YRP0B1D1	2	PARAM	144	16	1	16			NRPA152A
YRP0B1D1	3	PARAM	160	16	1	16			NRPA152B
YRP0B1D1	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1D1	1	PARAM	128	16	1	16			NRPA0500
YRP0B1D2	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1D2	1	PARAM	128	16	1	16			NRPA0500
YRP0B1D2	2	PARAM	144	16	1	16			NRPA152A
YRP0B1D2	3	PARAM	160	16	1	16			NRPA152B
YRP0B1D3	1	PARAM	128	16	1	16			NRPA0500
YRP0B1D3	2	PARAM	144	16	1	16			NRPA152A
YRP0B1D3	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1D3	3	PARAM	160	16	1	16			NRPA152B
YRP0B1D4	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1D4	1	PARAM	128	16	1	16			NRPA0500
YRP0B1D4	2	PARAM	144	16	1	16			NRPA152A
YRP0B1D4	3	PARAM	160	16	1	16			NRPA152B
YRP0B1D5	1	PARAM	128	16	1	16			NRPA0500
YRP0B1D5	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1D5	3	PARAM	160	16	1	16			NRPA152B
YRP0B1D5	2	PARAM	144	16	1	16			NRPA152A
YRP0B1D6	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1D6	1	PARAM	128	16	1	16			NRPA0500
YRP0B1D6	2	PARAM	144	16	1	16			NRPA152A
YRP0B1D6	3	PARAM	160	16	1	16			NRPA152B
YRP0B1D7	1	PARAM	128	16	1	16			NRPA0500
YRP0B1D7	2	PARAM	144	16	1	16			NRPA152A
YRP0B1D7	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1D7	3	PARAM	160	16	1	16			NRPA152B
YRP0B1D8	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1D8	1	PARAM	128	16	1	16			NRPA0500
YRP0B1D8	2	PARAM	144	16	1	16			NRPA152A
YRP0B1D8	3	PARAM	160	16	1	16			NRPA152B
YRP0B1D9	3	PARAM	160	16	1	16			NRPA152B
YRP0B1D9	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1D9	2	PARAM	144	16	1	16			NRPA152A
YRP0B1D9	1	PARAM	128	16	1	16			NRPA0500
YRP0B1DA	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1DA	1	PARAM	128	16	1	16			NRPA0500
YRP0B1DA	2	PARAM	144	16	1	16			NRPA152A
YRP0B1DA	3	PARAM	160	16	1	16			NRPA152B
YRP0B1DB	1	PARAM	128	16	1	16			NRPA0500
YRP0B1DB	2	PARAM	144	16	1	16			NRPA152A
YRP0B1DB	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1DB	3	PARAM	160	16	1	16			NRPA152B
YRP0B1DC	3	PARAM	160	16	1	16			NRPA152B
YRP0B1DC	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1DC	1	PARAM	128	16	1	16			NRPA0500
YRP0B1DC	2	PARAM	144	16	1	16			NRPA152A
YRP0B1DD	3	PARAM	160	16	1	16			NRPA152B
YRP0B1DD	2	PARAM	144	16	1	16			NRPA152A
YRP0B1DD	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1DD	1	PARAM	128	16	1	16			NRPA0500
YRP0B1DE	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1DE	1	PARAM	128	16	1	16			NRPA0500
YRP0B1DE	2	PARAM	144	16	1	16			NRPA152A
YRP0B1DE	3	PARAM	160	16	1	16			NRPA152B
YRP0B1DF	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1DF	1	PARAM	128	16	1	16			NRPA0500
YRP0B1DF	2	PARAM	144	16	1	16			NRPA152A
YRP0B1DF	3	PARAM	160	16	1	16			NRPA152B
YRP0B1F0	1	PARAM	128	16	1	16			NRPA0500
YRP0B1F0	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B1F0	2	PARAM	144	32	1	32			NRPA152C
YRP0B1F1	1	PARAM	128	16	1	16			NRPA0500
YRP0B1F1	2	PARAM	144	16	1	16			NRPA152E
YRP0B1F1	3	PARAM	160	16	1	16			NRPA152F
YRP0B1F1	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B200	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B200	1	PARAM	128	16	1	16			NRPA0500
YRP0B200	2	PARAM	144	16	1	16			NRPA2500
YRP0B200	3	PARAM	160	16	1	16			NRPA2501
YRP0B201	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B201	1	PARAM	128	16	1	16			NRPA0500
YRP0B201	2	PARAM	144	16	1	16			NRPA2510
YRP0B201	3	PARAM	160	16	1	16			NRPA2511

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRP0B202	1	PARAM	128	16	1	16			NRPA0500
YRP0B202	2	PARAM	144	16	1	16			NRPA2520
YRP0B202	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B202	3	PARAM	160	16	1	16			NRPA2521
YRP0B203	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B203	1	PARAM	128	16	1	16			NRPA0500
YRP0B203	2	PARAM	144	16	1	16			NRPA2530
YRP0B203	3	PARAM	160	16	1	16			NRPA2531
YRP0B301	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B301	1	PARAM	128	16	1	16			NRPA0500
YRP0B301	2	PARAM	144	16	1	16			NRPA3501
YRP0B301	3	PARAM	160	16	1	16			NRPA3502
YRP0B501	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B501	1	PARAM	128	16	1	16			NRPA0500
YRP0B501	2	PARAM	144	16	1	16			NRPA5501
YRP0B502	1	PARAM	128	16	1	16			NRPA0500
YRP0B502	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B502	2	PARAM	144	16	1	16			NRPA5501
YRP0B503	1	PARAM	128	16	1	16			NRPA0500
YRP0B503	2	PARAM	144	16	1	16			NRPA5502
YRP0B503	3	PARAM	160	16	1	16			NRPA5503
YRP0B503	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B504	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B504	1	PARAM	128	16	1	16			NRPA0500
YRP0B504	2	PARAM	144	16	1	16			NRPA5504
YRP0B504	3	PARAM	160	16	1	16			NRPA5505
YRP0B505	0	BLOCK	0	128	1	128	WRP08307	PKBM	
YRP0B505	3	PARAM	160	16	1	16			NRPA5507
YRP0B505	1	PARAM	128	16	1	16			NRPA0500
YRP0B505	2	PARAM	144	16	1	16			NRPA5506
YRP10325	8	PARAM	240	16	1	16			NRPA1360
YRP10325	13	PARAM	320	16	1	16			NRPA13B0
YRP10325	12	PARAM	304	16	1	16			NRPA13A0
YRP10325	1	PARAM	128	16	1	16			NRPA03A0
YRP10325	11	PARAM	288	16	1	16			NRPA1390
YRP10325	10	PARAM	272	16	1	16			NRPA1380
YRP10325	9	PARAM	256	16	1	16			NRPA1370
YRP10325	7	PARAM	224	16	1	16			NRPA1350
YRP10325	6	PARAM	208	16	1	16			NRPA1340
YRP10325	5	PARAM	192	16	1	16			NRPA1330
YRP10325	4	PARAM	176	16	1	16			NRPA1320
YRP10325	2	PARAM	144	16	1	16			NRPA1300
YRP10325	0	BLOCK	0	128	1	128	WRP08404	PKBM	
YRP10325	3	PARAM	160	16	1	16			NRPA1310
YRP10606	4	PARAM	192	16	1024	16			NRPA8400
YRP10606	3	PARAM	176	16	1	16			NRPA8300
YRP10606	0	BLOCK	0	128	1	128	WRP08409	PKBM	
YRP10606	1	PARAM	128	16	1	16			NRPA8100
YRP10606	2	PARAM	144	32	1	32			NRPA8200
YRP10610	0	BLOCK	0	128	1	128	WRP08407	PKBM	
YRP10610	1	PARAM	128	16	1	16			NRPA8100
YRP10610	2	PARAM	144	32	1	32			NRPA8200
YRP10610	3	PARAM	176	16	1	16			NRPA8300
YRP10610	4	PARAM	192	16	1	16			NRPA8500
YRP12003	0	BLOCK	0	128	1	128	WRP08412	PKBM	
YRP20325	6	PARAM	208	16	1	16			NRPA2340
YRP20325	13	PARAM	320	16	1	16			NRPA23B0
YRP20325	12	PARAM	304	16	1	16			NRPA23A0
YRP20325	11	PARAM	288	16	1	16			NRPA2390
YRP20325	10	PARAM	272	16	1	16			NRPA2380
YRP20325	9	PARAM	256	16	1	16			NRPA2370
YRP20325	7	PARAM	224	16	1	16			NRPA2350
YRP20325	5	PARAM	192	16	1	16			NRPA2330
YRP20325	4	PARAM	176	16	1	16			NRPA2320
YRP20325	3	PARAM	160	16	1	16			NRPA2310
YRP20325	2	PARAM	144	16	1	16			NRPA2300
YRP20325	1	PARAM	128	16	1	16			NRPA03A0
YRP20325	0	BLOCK	0	128	1	128	WRP08504	PKBM	
YRP20325	8	PARAM	240	16	1	16			NRPA2360
YRP20606	0	BLOCK	0	128	1	128	WRP08509	PKBM	
YRP20606	1	PARAM	128	16	1	16			NRPA8100
YRP20606	2	PARAM	144	32	1	32			NRPA8200
YRP20606	3	PARAM	176	16	1	16			NRPA8300
YRP20606	4	PARAM	192	16	1024	16			NRPA8400
YRP20610	0	BLOCK	0	128	1	128	WRP08507	PKBM	
YRP20610	4	PARAM	192	16	1	16			NRPA8500
YRP20610	1	PARAM	128	16	1	16			NRPA8100
YRP20610	3	PARAM	176	16	1	16			NRPA8300
YRP20610	2	PARAM	144	32	1	32			NRPA8200

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRP22003	0	BLOCK	0	128	1	128	WRP08512	PKBM	
YRP30325	0	BLOCK	0	128	1	128	WRP08604	PKBM	
YRP30325	1	PARAM	128	16	1	16			NRPA03A0
YRP30325	2	PARAM	144	16	1	16			NRPA3300
YRP30325	3	PARAM	160	16	1	16			NRPA3310
YRP30325	4	PARAM	176	16	1	16			NRPA3320
YRP30325	5	PARAM	192	16	1	16			NRPA3330
YRP30325	6	PARAM	208	16	1	16			NRPA3340
YRP30325	7	PARAM	224	16	1	16			NRPA3350
YRP30606	1	PARAM	128	16	1	16			NRPA8100
YRP30606	4	PARAM	192	16	1024	16			NRPA8400
YRP30606	2	PARAM	144	32	1	32			NRPA8200
YRP30606	0	BLOCK	0	128	1	128	WRP08609	PKBM	
YRP30606	3	PARAM	176	16	1	16			NRPA8300
YRP30610	0	BLOCK	0	128	1	128	WRP08607	PKBM	
YRP30610	1	PARAM	128	16	1	16			NRPA8100
YRP30610	2	PARAM	144	32	1	32			NRPA8200
YRP30610	3	PARAM	176	16	1	16			NRPA8300
YRP30610	4	PARAM	192	16	1	16			NRPA8500
YRP32003	0	BLOCK	0	128	1	128	WRP08612	PKBM	
YRP40325	8	PARAM	240	16	1	16			NRPA4370
YRP40325	7	PARAM	224	16	1	16			NRPA4360
YRP40325	4	PARAM	176	16	1	16			NRPA4330
YRP40325	5	PARAM	192	16	1	16			NRPA4340
YRP40325	2	PARAM	144	16	1	16			NRPA4310
YRP40325	1	PARAM	128	16	1	16			NRPA03A0
YRP40325	0	BLOCK	0	128	1	128	WRP08704	PKBM	
YRP40325	3	PARAM	160	16	1	16			NRPA4320
YRP40325	6	PARAM	208	16	1	16			NRPA4350
YRP42003	0	BLOCK	0	128	1	128	WRP08712	PKBM	
YRP50325	2	PARAM	144	16	1	16			NRPA5300
YRP50325	8	PARAM	240	16	1	16			NRPA5360
YRP50325	7	PARAM	224	16	1	16			NRPA5350
YRP50325	6	PARAM	208	16	1	16			NRPA5340
YRP50325	5	PARAM	192	16	1	16			NRPA5330
YRP50325	3	PARAM	160	16	1	16			NRPA5310
YRP50325	9	PARAM	256	16	1	16			NRPA5370
YRP50325	1	PARAM	128	16	1	16			NRPA03A0
YRP50325	0	BLOCK	0	128	1	128	WRP08804	PKBM	
YRP50325	4	PARAM	176	16	1	16			NRPA5320
YRP52003	0	BLOCK	0	128	1	128	WRP08812	PKBM	
YRPST001	1	PARAM	128	16	1	16			NRPAST01
YRPST001	2	PARAM	144	16	1	16			NRPAST02
YRPST001	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST002	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST002	1	PARAM	128	16	1	16			NRPAST01
YRPST002	2	PARAM	144	16	1	16			NRPAST02
YRPST002	3	PARAM	160	16	1	16			NRPAST03
YRPST002	4	PARAM	176	16	1	16			NRPAST04
YRPST002	5	PARAM	192	16	1	16			NRPAST10
YRPST002	6	PARAM	208	16	1	16			NRPAST11
YRPST003	6	PARAM	208	16	1	16			NRPAST13
YRPST003	5	PARAM	192	16	1	16			NRPAST12
YRPST003	2	PARAM	144	16	1	16			NRPAST02
YRPST003	1	PARAM	128	16	1	16			NRPAST01
YRPST003	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST003	4	PARAM	176	16	1	16			NRPAST04
YRPST003	3	PARAM	160	16	1	16			NRPAST03
YRPST004	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST004	1	PARAM	128	16	1	16			NRPAST01
YRPST004	2	PARAM	144	16	1	16			NRPAST02
YRPST004	3	PARAM	160	16	1	16			NRPAST03
YRPST004	4	PARAM	176	16	1	16			NRPAST04
YRPST005	5	PARAM	192	16	1	16			NRPAST14
YRPST005	6	PARAM	208	16	1	16			NRPAST15
YRPST005	4	PARAM	176	16	1	16			NRPAST04
YRPST005	2	PARAM	144	16	1	16			NRPAST02
YRPST005	1	PARAM	128	16	1	16			NRPAST01
YRPST005	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST005	3	PARAM	160	16	1	16			NRPAST03
YRPST006	4	PARAM	176	16	1	16			NRPAST04
YRPST006	1	PARAM	128	16	1	16			NRPAST01
YRPST006	2	PARAM	144	16	1	16			NRPAST02
YRPST006	3	PARAM	160	16	1	16			NRPAST03
YRPST006	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST007	5	PARAM	192	16	1	16			NRPAST20
YRPST007	4	PARAM	176	16	1	16			NRPAST04
YRPST007	3	PARAM	160	16	1	16			NRPAST03
YRPST007	2	PARAM	144	16	1	16			NRPAST02

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRPST007	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST007	1	PARAM	128	16	1	16			NRPAST01
YRPST008	2	PARAM	144	16	1	16			NRPAST02
YRPST008	1	PARAM	128	16	1	16			NRPAST01
YRPST008	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST009	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST009	1	PARAM	128	16	1	16			NRPAST01
YRPST009	2	PARAM	144	16	1	16			NRPAST02
YRPST009	3	PARAM	160	16	1	16			NRPAST03
YRPST009	4	PARAM	176	16	1	16			NRPAST04
YRPST101	0	BLOCK	0	128	1	128	WRP08401	PKBM	
YRPST101	1	PARAM	128	16	1	16			NRPAST01
YRPST101	2	PARAM	144	16	1	16			NRPAST02
YRPST102	0	BLOCK	0	128	1	128	WRP08401	PKBM	
YRPST102	5	PARAM	192	16	1	16			NRPAST10
YRPST102	4	PARAM	176	16	1	16			NRPAST04
YRPST102	3	PARAM	160	16	1	16			NRPAST03
YRPST102	1	PARAM	128	16	1	16			NRPAST01
YRPST102	6	PARAM	208	16	1	16			NRPAST11
YRPST102	2	PARAM	144	16	1	16			NRPAST02
YRPST103	4	PARAM	176	16	1	16			NRPAST04
YRPST103	6	PARAM	208	16	1	16			NRPAST13
YRPST103	5	PARAM	192	16	1	16			NRPAST12
YRPST103	3	PARAM	160	16	1	16			NRPAST03
YRPST103	2	PARAM	144	16	1	16			NRPAST02
YRPST103	0	BLOCK	0	128	1	128	WRP08401	PKBM	
YRPST103	1	PARAM	128	16	1	16			NRPAST01
YRPST104	0	BLOCK	0	128	1	128	WRP08401	PKBM	
YRPST104	1	PARAM	128	16	1	16			NRPAST01
YRPST104	2	PARAM	144	16	1	16			NRPAST02
YRPST104	3	PARAM	160	16	1	16			NRPAST03
YRPST104	4	PARAM	176	16	1	16			NRPAST04
YRPST105	5	PARAM	192	16	1	16			NRPAST14
YRPST105	1	PARAM	128	16	1	16			NRPAST01
YRPST105	6	PARAM	208	16	1	16			NRPAST15
YRPST105	0	BLOCK	0	128	1	128	WRP08401	PKBM	
YRPST105	2	PARAM	144	16	1	16			NRPAST02
YRPST105	4	PARAM	176	16	1	16			NRPAST04
YRPST105	3	PARAM	160	16	1	16			NRPAST03
YRPST106	4	PARAM	176	16	1	16			NRPAST04
YRPST106	0	BLOCK	0	128	1	128	WRP08401	PKBM	
YRPST106	1	PARAM	128	16	1	16			NRPAST01
YRPST106	2	PARAM	144	16	1	16			NRPAST02
YRPST106	3	PARAM	160	16	1	16			NRPAST03
YRPST107	4	PARAM	176	16	1	16			NRPAST04
YRPST107	3	PARAM	160	16	1	16			NRPAST03
YRPST107	2	PARAM	144	16	1	16			NRPAST02
YRPST107	0	BLOCK	0	128	1	128	WRP08401	PKBM	
YRPST107	5	PARAM	192	16	1	16			NRPAST20
YRPST107	1	PARAM	128	16	1	16			NRPAST01
YRPST108	2	PARAM	144	16	1	16			NRPAST02
YRPST108	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST108	1	PARAM	128	16	1	16			NRPAST01
YRPST109	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST109	1	PARAM	128	16	1	16			NRPAST01
YRPST109	2	PARAM	144	16	1	16			NRPAST02
YRPST109	3	PARAM	160	16	1	16			NRPAST03
YRPST109	4	PARAM	176	16	1	16			NRPAST04
YRPST201	0	BLOCK	0	128	1	128	WRP08501	PKBM	
YRPST201	1	PARAM	128	16	1	16			NRPAST01
YRPST201	2	PARAM	144	16	1	16			NRPAST02
YRPST202	0	BLOCK	0	128	1	128	WRP08501	PKBM	
YRPST202	6	PARAM	208	16	1	16			NRPAST11
YRPST202	5	PARAM	192	16	1	16			NRPAST10
YRPST202	3	PARAM	160	16	1	16			NRPAST03
YRPST202	1	PARAM	128	16	1	16			NRPAST01
YRPST202	4	PARAM	176	16	1	16			NRPAST04
YRPST202	2	PARAM	144	16	1	16			NRPAST02
YRPST203	5	PARAM	192	16	1	16			NRPAST12
YRPST203	6	PARAM	208	16	1	16			NRPAST13
YRPST203	4	PARAM	176	16	1	16			NRPAST04
YRPST203	3	PARAM	160	16	1	16			NRPAST03
YRPST203	2	PARAM	144	16	1	16			NRPAST02
YRPST203	1	PARAM	128	16	1	16			NRPAST01
YRPST203	0	BLOCK	0	128	1	128	WRP08501	PKBM	
YRPST204	4	PARAM	176	16	1	16			NRPAST04
YRPST204	1	PARAM	128	16	1	16			NRPAST01
YRPST204	2	PARAM	144	16	1	16			NRPAST02
YRPST204	3	PARAM	160	16	1	16			NRPAST03

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRPST204	0	BLOCK	0	128	1	128	WRP08501	PKBM	
YRPST205	4	PARAM	176	16	1	16			NRPAST04
YRPST205	6	PARAM	208	16	1	16			NRPAST15
YRPST205	5	PARAM	192	16	1	16			NRPAST14
YRPST205	3	PARAM	160	16	1	16			NRPAST03
YRPST205	2	PARAM	144	16	1	16			NRPAST02
YRPST205	0	BLOCK	0	128	1	128	WRP08501	PKBM	
YRPST205	1	PARAM	128	16	1	16			NRPAST01
YRPST206	0	BLOCK	0	128	1	128	WRP08501	PKBM	
YRPST206	1	PARAM	128	16	1	16			NRPAST01
YRPST206	2	PARAM	144	16	1	16			NRPAST02
YRPST206	3	PARAM	160	16	1	16			NRPAST03
YRPST206	4	PARAM	176	16	1	16			NRPAST04
YRPST207	4	PARAM	176	16	1	16			NRPAST04
YRPST207	5	PARAM	192	16	1	16			NRPAST20
YRPST207	2	PARAM	144	16	1	16			NRPAST02
YRPST207	0	BLOCK	0	128	1	128	WRP08501	PKBM	
YRPST207	3	PARAM	160	16	1	16			NRPAST03
YRPST207	1	PARAM	128	16	1	16			NRPAST01
YRPST208	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST208	1	PARAM	128	16	1	16			NRPAST01
YRPST208	2	PARAM	144	16	1	16			NRPAST02
YRPST209	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST209	1	PARAM	128	16	1	16			NRPAST01
YRPST209	2	PARAM	144	16	1	16			NRPAST02
YRPST209	3	PARAM	160	16	1	16			NRPAST03
YRPST209	4	PARAM	176	16	1	16			NRPAST04
YRPST301	0	BLOCK	0	128	1	128	WRP08601	PKBM	
YRPST301	1	PARAM	128	16	1	16			NRPAST01
YRPST301	2	PARAM	144	16	1	16			NRPAST02
YRPST302	0	BLOCK	0	128	1	128	WRP08601	PKBM	
YRPST302	1	PARAM	128	16	1	16			NRPAST01
YRPST302	2	PARAM	144	16	1	16			NRPAST02
YRPST302	3	PARAM	160	16	1	16			NRPAST03
YRPST302	4	PARAM	176	16	1	16			NRPAST04
YRPST302	5	PARAM	192	16	1	16			NRPAST10
YRPST302	6	PARAM	208	16	1	16			NRPAST11
YRPST303	6	PARAM	208	16	1	16			NRPAST13
YRPST303	5	PARAM	192	16	1	16			NRPAST12
YRPST303	2	PARAM	144	16	1	16			NRPAST02
YRPST303	1	PARAM	128	16	1	16			NRPAST01
YRPST303	0	BLOCK	0	128	1	128	WRP08601	PKBM	
YRPST303	4	PARAM	176	16	1	16			NRPAST04
YRPST303	3	PARAM	160	16	1	16			NRPAST03
YRPST304	0	BLOCK	0	128	1	128	WRP08601	PKBM	
YRPST304	1	PARAM	128	16	1	16			NRPAST01
YRPST304	2	PARAM	144	16	1	16			NRPAST02
YRPST304	3	PARAM	160	16	1	16			NRPAST03
YRPST304	4	PARAM	176	16	1	16			NRPAST04
YRPST305	0	BLOCK	0	128	1	128	WRP08601	PKBM	
YRPST305	6	PARAM	208	16	1	16			NRPAST15
YRPST305	5	PARAM	192	16	1	16			NRPAST14
YRPST305	4	PARAM	176	16	1	16			NRPAST04
YRPST305	3	PARAM	160	16	1	16			NRPAST03
YRPST305	1	PARAM	128	16	1	16			NRPAST01
YRPST305	2	PARAM	144	16	1	16			NRPAST02
YRPST306	4	PARAM	176	16	1	16			NRPAST04
YRPST306	0	BLOCK	0	128	1	128	WRP08601	PKBM	
YRPST306	3	PARAM	160	16	1	16			NRPAST03
YRPST306	1	PARAM	128	16	1	16			NRPAST01
YRPST306	2	PARAM	144	16	1	16			NRPAST02
YRPST307	0	BLOCK	0	128	1	128	WRP08601	PKBM	
YRPST307	1	PARAM	128	16	1	16			NRPAST01
YRPST307	2	PARAM	144	16	1	16			NRPAST02
YRPST307	3	PARAM	160	16	1	16			NRPAST03
YRPST307	4	PARAM	176	16	1	16			NRPAST04
YRPST307	5	PARAM	192	16	1	16			NRPAST20
YRPST308	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST308	1	PARAM	128	16	1	16			NRPAST01
YRPST308	2	PARAM	144	16	1	16			NRPAST02
YRPST309	4	PARAM	176	16	1	16			NRPAST04
YRPST309	0	BLOCK	0	128	1	128	WRP08301	PKBM	
YRPST309	1	PARAM	128	16	1	16			NRPAST01
YRPST309	3	PARAM	160	16	1	16			NRPAST03
YRPST309	2	PARAM	144	16	1	16			NRPAST02
YRPST401	0	BLOCK	0	128	1	128	WRP08701	PKBM	
YRPST401	1	PARAM	128	16	1	16			NRPAST01
YRPST401	2	PARAM	144	16	1	16			NRPAST02
YRPST402	2	PARAM	144	16	1	16			NRPAST02

TMPK_NAME	TMPE_ORDER	ELTTYPE	ITEMOFFSET	TMPE_SIZE	REPEAT	CALCSIZE	PKBL_NAME	PKBL_CATEGORY	TMPA_NAME
YRPST402	6	PARAM	208	16	1	16			NRPAST11
YRPST402	5	PARAM	192	16	1	16			NRPAST10
YRPST402	3	PARAM	160	16	1	16			NRPAST03
YRPST402	1	PARAM	128	16	1	16			NRPAST01
YRPST402	0	BLOCK	0	128	1	128	WRP08701	PKBM	
YRPST402	4	PARAM	176	16	1	16			NRPAST04
YRPST403	1	PARAM	128	16	1	16			NRPAST01
YRPST403	6	PARAM	208	16	1	16			NRPAST13
YRPST403	5	PARAM	192	16	1	16			NRPAST12
YRPST403	4	PARAM	176	16	1	16			NRPAST04
YRPST403	2	PARAM	144	16	1	16			NRPAST02
YRPST403	0	BLOCK	0	128	1	128	WRP08701	PKBM	
YRPST403	3	PARAM	160	16	1	16			NRPAST03
YRPST404	0	BLOCK	0	128	1	128	WRP08701	PKBM	
YRPST404	1	PARAM	128	16	1	16			NRPAST01
YRPST404	2	PARAM	144	16	1	16			NRPAST02
YRPST404	3	PARAM	160	16	1	16			NRPAST03
YRPST404	4	PARAM	176	16	1	16			NRPAST04
YRPST405	5	PARAM	192	16	1	16			NRPAST14
YRPST405	6	PARAM	208	16	1	16			NRPAST15
YRPST405	0	BLOCK	0	128	1	128	WRP08701	PKBM	
YRPST405	3	PARAM	160	16	1	16			NRPAST03
YRPST405	1	PARAM	128	16	1	16			NRPAST01
YRPST405	4	PARAM	176	16	1	16			NRPAST04
YRPST405	2	PARAM	144	16	1	16			NRPAST02
YRPST406	4	PARAM	176	16	1	16			NRPAST04
YRPST406	0	BLOCK	0	128	1	128	WRP08701	PKBM	
YRPST406	1	PARAM	128	16	1	16			NRPAST01
YRPST406	2	PARAM	144	16	1	16			NRPAST02
YRPST406	3	PARAM	160	16	1	16			NRPAST03
YRPST407	4	PARAM	176	16	1	16			NRPAST04
YRPST407	3	PARAM	160	16	1	16			NRPAST03
YRPST407	2	PARAM	144	16	1	16			NRPAST02
YRPST407	0	BLOCK	0	128	1	128	WRP08701	PKBM	
YRPST407	5	PARAM	192	16	1	16			NRPAST20
YRPST407	1	PARAM	128	16	1	16			NRPAST01
YRPST501	2	PARAM	144	16	1	16			NRPAST02
YRPST501	0	BLOCK	0	128	1	128	WRP08801	PKBM	
YRPST501	1	PARAM	128	16	1	16			NRPAST01
YRPST502	0	BLOCK	0	128	1	128	WRP08801	PKBM	
YRPST502	1	PARAM	128	16	1	16			NRPAST01
YRPST502	2	PARAM	144	16	1	16			NRPAST02
YRPST502	3	PARAM	160	16	1	16			NRPAST03
YRPST502	4	PARAM	176	16	1	16			NRPAST04
YRPST502	5	PARAM	192	16	1	16			NRPAST10
YRPST502	6	PARAM	208	16	1	16			NRPAST11
YRPST503	6	PARAM	208	16	1	16			NRPAST13
YRPST503	5	PARAM	192	16	1	16			NRPAST12
YRPST503	2	PARAM	144	16	1	16			NRPAST02
YRPST503	1	PARAM	128	16	1	16			NRPAST01
YRPST503	0	BLOCK	0	128	1	128	WRP08801	PKBM	
YRPST503	4	PARAM	176	16	1	16			NRPAST04
YRPST503	3	PARAM	160	16	1	16			NRPAST03
YRPST504	0	BLOCK	0	128	1	128	WRP08801	PKBM	
YRPST504	1	PARAM	128	16	1	16			NRPAST01
YRPST504	2	PARAM	144	16	1	16			NRPAST02
YRPST504	3	PARAM	160	16	1	16			NRPAST03
YRPST504	4	PARAM	176	16	1	16			NRPAST04
YRPST505	4	PARAM	176	16	1	16			NRPAST04
YRPST505	5	PARAM	192	16	1	16			NRPAST14
YRPST505	2	PARAM	144	16	1	16			NRPAST02
YRPST505	1	PARAM	128	16	1	16			NRPAST01
YRPST505	0	BLOCK	0	128	1	128	WRP08801	PKBM	
YRPST505	6	PARAM	208	16	1	16			NRPAST15
YRPST505	3	PARAM	160	16	1	16			NRPAST03
YRPST506	3	PARAM	160	16	1	16			NRPAST03
YRPST506	4	PARAM	176	16	1	16			NRPAST04
YRPST506	2	PARAM	144	16	1	16			NRPAST02
YRPST506	1	PARAM	128	16	1	16			NRPAST01
YRPST506	0	BLOCK	0	128	1	128	WRP08801	PKBM	
YRPST507	1	PARAM	128	16	1	16			NRPAST01
YRPST507	2	PARAM	144	16	1	16			NRPAST02
YRPST507	3	PARAM	160	16	1	16			NRPAST03
YRPST507	4	PARAM	176	16	1	16			NRPAST04
YRPST507	5	PARAM	192	16	1	16			NRPAST20
YRPST507	0	BLOCK	0	128	1	128	WRP08801	PKBM	

6.2.3 C_TMPARAM

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPA0300	TMGS	N	HK Word 0		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0310	TMGS	N	HK Word 1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0320	TMGS	N	HK Word 2		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0330	TMGS	N	HK Word 3		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0340	TMGS	N	Keyhole Word		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0350	TMGS	N	Bdcst Pulse Cnt		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0360	TMGS	N	HK Word 6		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0370	TMGS	N	HK Word 7		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0380	TMGS	N	HK Word 8		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0390	TMGS	N	Pad		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA03A0	TMGS	N	HK SID Global		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0500	TMGS	N	Event ID		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0501	TMGS	N	APID		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0502	TMGS	N	Type/Subtype		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0503	TMGS	N	SCET		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPA0505	TMGS	N	Calculated Value		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0506	TMGS	N	Failure Word A0		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0507	TMGS	N	Failure Word A1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0508	TMGS	N	Failure Word B0		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0509	TMGS	N	Failure Word B1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0510	TMGS	N	HK Type Sent		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPA0511	TMGS	N	LapMip Sync Bits		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0512	TMGS	N	Code Build No.		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0513	TMGS	N	Maj. Vers ID		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0514	TMGS	N	Min. Vers ID		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0515	TMGS	N	Seq. Number		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0516	TMGS	N	Bad Block Index		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0517	TMGS	N	BadMemCurrentId		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0518	TMGS	N	E2prom Failure Addr.		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPA0519	TMGS	N	Bad Eprom Chksum		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0520	TMGS	N	PC at Faulty IRQ		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0521	TMGS	N	Faulty Register		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0522	TMGS	N	Level Before Reset		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0523	TMGS	N	Level After Reset		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0524	TMGS	N	Seq. Count		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0525	TMGS	N	Unit ID		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0526	TMGS	N	Par Mntr Value		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0527	TMGS	N	Location		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPA0528	TMGS	N	Mask		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA0529	TMGS	N	Original Checksum		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1300	TMGS	N	HK Type I Word 0		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1310	TMGS	N	HK Type I Word 1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1320	TMGS	N	HK Type I Word 2		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1330	TMGS	N	HK Type II Word 3		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1340	TMGS	N	HK Type II Word 4		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1350	TMGS	N	HK Type II Word 5		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1360	TMGS	N	HK Type III Word 6		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1370	TMGS	N	HK Type III Word 7		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1380	TMGS	N	HK Type III Word 8		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1390	TMGS	N	HK Type IV Word 9		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA13A0	TMGS	N	HK Type IV Word 10		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA13B0	TMGS	N	HK Type IV Word 11		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA150A	TMGS	N	ELC MCP Monitor		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA150C	TMGS	N	ION MCP Monitor		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA150E	TMGS	N	HVMON Monitor		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1510	TMGS	N	Expected Checksum		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1511	TMGS	N	Calculated Checksum		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1512	TMGS	N	RAM Test Fill Type		7	SRPRPC00	3	12	16	T_WORD	DIG	CRPV1512		URPRPC00		
NRPA1513	TMGS	N	First Offending Address		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1514	TMGS	N	Memory Service Err Type		7	SRPRPC00	3	12	16	T_WORD	DIG	CRPV1514		URPRPC00		
NRPA1515	TMGS	N	Memory Service Err Data		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1516	TMGS	N	Memory Service Info		7	SRPRPC00	3	12	16	T_WORD	DIG	CRPV1516		URPRPC00		
NRPA1518	TMGS	N	Undervoltage Flags		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1519	TMGS	N	Org Safe Arm Plug State		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA151A	TMGS	N	Negative 5V Monitor		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA151B	TMGS	N	Positive 5V Monitor		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA151C	TMGS	N	Negative 12V Monitor		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA151D	TMGS	N	Positive 12V Monitor		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA151E	TMGS	N	Command Bytes 0-1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA151F	TMGS	N	Command Bytes 2-3		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1520	TMGS	N	Command State/Byte 0		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1521	TMGS	N	Command Bytes 1-2		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1522	TMGS	N	Link Error Status Flags		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1523	TMGS	N	Link Chip Status		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1524	TMGS	N	Sequence Error Code 0		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1525	TMGS	N	Sequence Data Word		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1528	TMGS	N	Current Giada Dust Flux		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1529	TMGS	N	Giada Dust Threshold		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA152A	TMGS	N	Current Rosina Pressures		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA152B	TMGS	N	Ros Pressure Thresholds		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA152C	TMGS	N	Timestamp		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPA152E	TMGS	N	Page Information		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPA152F	TMGS	N	16 Bit Pad		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1530	TMGS	N	Overvoltage Flags		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA1531	TMGS	N	New Safe Arm Plug State		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2300	TMGS	N	ICA HK Word 0		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2310	TMGS	N	ICA HK Word 1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2320	TMGS	N	ICA HK Word 2		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2330	TMGS	N	ICA HK Word 3		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2340	TMGS	N	ICA HK Word 4		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2350	TMGS	N	ICA HK Word 5		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2360	TMGS	N	ICA HK Word 6		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2370	TMGS	N	ICA HK Word 7		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2380	TMGS	N	ICA HK Word 8		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2390	TMGS	N	ICA HK Word 9		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA23A0	TMGS	N	ICA HK Word 10		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA23B0	TMGS	N	ICA HK Word 11		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2500	TMGS	N	ICA Event cmd. Code		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2501	TMGS	N	ICA Event cmd. Err/2:nd word		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2510	TMGS	N	ICA Event patch prog. OK		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2511	TMGS	N	ICA Event patch prog. OK info.		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2520	TMGS	N	ICA Event patch prog. Err.		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2521	TMGS	N	ICA Event patch prog. Err. Info.		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2530	TMGS	N	ICA Event internal prog. OK		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2531	TMGS	N	ICA Event internal prog. OK info.		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2540	TMGS	N	ICA Event internal prog. Err.		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA2541	TMGS	N	ICA Event internal prog. Err. Info.		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA3300	TMGS	N	HK Word 1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA3310	TMGS	N	HK Word 2		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA3320	TMGS	N	HK Word 3		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA3330	TMGS	N	HK Word 4		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA3340	TMGS	N	HK Word 5		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA3350	TMGS	N	HK Word 6		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA3501	TMGS	N	LAP Event Param1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA3502	TMGS	N	LAP Event Param2		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA4310	TMGS	N	MIP HK word 0		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA4320	TMGS	N	MIP HK word 1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA4330	TMGS	N	MIP HK word 2		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA4340	TMGS	N	MIP HK word 3		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA4350	TMGS	N	MIP HK word 4		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA4360	TMGS	N	MIP HK word 5		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPA4370	TMGS	N	MIP HK word 6		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5300	TMGS	N	HK Word 0		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5310	TMGS	N	Anlg Ref (LS Word)		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5320	TMGS	N	Temperature 1		7	SRPRPC00	3	12	16	T_WORD	ANA	CRPP5501		URPRPC00		
NRPA5330	TMGS	N	Temperature 2		7	SRPRPC00	3	12	16	T_WORD	ANA	CRPP5502		URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPA5340	TMGS	N	HK Word 4		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5350	TMGS	N	X Component		7	SRPRPC00	3	12	16	T_WORD	ANA	CRPP5503		URPRPC00		
NRPA5360	TMGS	N	Y Component		7	SRPRPC00	3	12	16	T_WORD	ANA	CRPP5504		URPRPC00		
NRPA5370	TMGS	N	Z Component		7	SRPRPC00	3	12	16	T_WORD	ANA	CRPP5505		URPRPC00		
NRPA5501	TMGS	N	Rx MAG TC SubType		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5502	TMGS	N	Rx MAG Sample Counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5503	TMGS	N	PIU Pred Cyc Count		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5504	TMGS	N	NumAddedDummyRawSamples		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5505	TMGS	N	RawSamplesReqInPacket		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5506	TMGS	N	NumConvSglsForCurPacket		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA5507	TMGS	N	NumSamplesForCurPacket		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA8100	TMGS	N	Memory Dump Word 1		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA8200	TMGS	N	Start Address		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPA8300	TMGS	N	Block Length		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA8400	TMGS	N	Dump Data		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPA8500	TMGS	N	Memory Checksum		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH011	TMGS	N	RPC 83/1 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH012	TMGS	N	RPC 83/1 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH013	TMGS	N	RPC 83/1 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH014	TMGS	N	RPC 83/1 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH041	TMGS	N	RPC 83/4 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH042	TMGS	N	RPC 83/4 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH043	TMGS	N	RPC 83/4 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH044	TMGS	N	RPC 83/4 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH071	TMGS	N	RPC 83/7 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH072	TMGS	N	RPC 83/7 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH073	TMGS	N	RPC 83/7 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH074	TMGS	N	RPC 83/7 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH091	TMGS	N	RPC 83/9 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH092	TMGS	N	RPC 83/9 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH093	TMGS	N	RPC 83/9 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH094	TMGS	N	RPC 83/9 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH111	TMGS	N	RPC 84/1 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH112	TMGS	N	RPC 84/1 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH113	TMGS	N	RPC 84/1 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH114	TMGS	N	RPC 84/1 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH141	TMGS	N	RPC 84/4 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH142	TMGS	N	RPC 84/4 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH143	TMGS	N	RPC 84/4 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH144	TMGS	N	RPC 84/4 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH171	TMGS	N	RPC 84/7 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH172	TMGS	N	RPC 84/7 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH173	TMGS	N	RPC 84/7 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH174	TMGS	N	RPC 84/7 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPAH191	TMGS	N	RPC 84/9 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH192	TMGS	N	RPC 84/9 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH193	TMGS	N	RPC 84/9 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH194	TMGS	N	RPC 84/9 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH1C1	TMGS	N	RPC 84/12 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH1C2	TMGS	N	RPC 84/12 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH1C3	TMGS	N	RPC 84/12 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH1C4	TMGS	N	RPC 84/12 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH211	TMGS	N	RPC 85/1 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH212	TMGS	N	RPC 85/1 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH213	TMGS	N	RPC 85/1 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH214	TMGS	N	RPC 85/1 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH241	TMGS	N	RPC 85/4 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH242	TMGS	N	RPC 85/4 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH243	TMGS	N	RPC 85/4 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH244	TMGS	N	RPC 85/4 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH271	TMGS	N	RPC 85/7 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH272	TMGS	N	RPC 85/7 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH273	TMGS	N	RPC 85/7 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH274	TMGS	N	RPC 85/7 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH291	TMGS	N	RPC 85/9 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH292	TMGS	N	RPC 85/9 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH293	TMGS	N	RPC 85/9 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH294	TMGS	N	RPC 85/9 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH2C1	TMGS	N	RPC 85/12 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH2C2	TMGS	N	RPC 85/12 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH2C3	TMGS	N	RPC 85/12 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH2C4	TMGS	N	RPC 85/12 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH311	TMGS	N	RPC 86/1 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH312	TMGS	N	RPC 86/1 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH313	TMGS	N	RPC 86/1 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH314	TMGS	N	RPC 86/1 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH341	TMGS	N	RPC 86/4 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH342	TMGS	N	RPC 86/4 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH343	TMGS	N	RPC 86/4 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH344	TMGS	N	RPC 86/4 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH371	TMGS	N	RPC 86/7 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH372	TMGS	N	RPC 86/7 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH373	TMGS	N	RPC 86/7 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH374	TMGS	N	RPC 86/7 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH391	TMGS	N	RPC 86/9 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH392	TMGS	N	RPC 86/9 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH393	TMGS	N	RPC 86/9 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH394	TMGS	N	RPC 86/9 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPAH3C1	TMGS	N	RPC 86/12 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH3C2	TMGS	N	RPC 86/12 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH3C3	TMGS	N	RPC 86/12 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH3C4	TMGS	N	RPC 86/12 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH411	TMGS	N	RPC 87/1 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH412	TMGS	N	RPC 87/1 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH413	TMGS	N	RPC 87/1 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH414	TMGS	N	RPC 87/1 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH441	TMGS	N	RPC 87/4 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH442	TMGS	N	RPC 87/4 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH443	TMGS	N	RPC 87/4 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH444	TMGS	N	RPC 87/4 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH4C1	TMGS	N	RPC 87/12 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH4C2	TMGS	N	RPC 87/12 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH4C3	TMGS	N	RPC 87/12 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH4C4	TMGS	N	RPC 87/12 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH511	TMGS	N	RPC 88/1 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH512	TMGS	N	RPC 88/1 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH513	TMGS	N	RPC 88/1 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH514	TMGS	N	RPC 88/1 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH541	TMGS	N	RPC 88/4 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH542	TMGS	N	RPC 88/4 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH543	TMGS	N	RPC 88/4 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH544	TMGS	N	RPC 88/4 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPAH5C1	TMGS	N	RPC 88/12 Packet sequence counter		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAH5C2	TMGS	N	RPC 88/12 Packet length		7	SRPRPC00	2	16	16	T_WORD	NONE			URPRPC00		
NRPAH5C3	TMGS	N	RPC 88/12 Data field header time field		7	SRPRPC00	9	17	48	T_48_BIT	NONE			URPRPC00		
NRPAH5C4	TMGS	N	RPC 88/12 Data field header PUS		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPASDTA	TMGA	N	MIRO SDT SAMP	NMRASDTB	7	SMRMIRO0	3	12	16	T_WORD	NONE			UMRMIRO0	UMRMIRO0	
NRPAST01	TMGS	N	Global PID		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST02	TMGS	N	Sequence Control		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST03	TMGS	N	FailureCode		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST04	TMGS	N	Packet Service Info		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST10	TMGS	N	Length in TC header		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST11	TMGS	N	Nb of received bytes		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST12	TMGS	N	ReceivedChecksum		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST13	TMGS	N	ComputedChecksum		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST14	TMGS	N	FC4_Par3		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST15	TMGS	N	FC4_Par4		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAST20	TMGS	N	InconsistentPar		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPAT001	TMGA	N	PAY429-Rpc Ies Temp		7	SRPICA00	3	12	16	T_WORD	ANA	CRPP0001	CDAY2206	URPRPC00		UDMRTUPSM000
NRPAT002	TMGA	N	PAY430-Rpc Ica Temp		7	SRPIES00	3	12	16	T_WORD	ANA	CRPP0001	CDAY2206	URPRPC00		UDMRTUPSM000
NRPAT003	TMGA	N	PAY431-Rpc Mip Temp		7	SRPIES00	3	12	16	T_WORD	ANA	CRPP0001	CDAY2005	URPRPC00		UDMRTUPSM000
NRPD0300	TMDP	N	IES Switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPD0301	TMDP	N	ICA Switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD0302	TMDP	N	LAP HV Switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD0303	TMDP	N	LAP Switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD0304	TMDP	N	MIP Switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD0305	TMDP	N	MAG Switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD0306	TMDP	N	PSUTemperatureRange		7	SRPRPC00	2	3	3	T_3_BIT	ANA	CRPP0500		URPRPC00		
NRPD0309	TMDP	N	PSUTemperatureValue		7	SRPRPC00	3	3	7	T_7_BIT	NONE			URPRPC00		
NRPD0310	TMDP	N	+5V Level		7	SRPRPC00	4	4	8	T_BYTE	ANA	CRPP0501		URPRPC00		
NRPD0317	TMDP	N	-5V Level		7	SRPRPC00	4	4	8	T_BYTE	ANA	CRPP0502		URPRPC00		
NRPD0320	TMDP	N	+12V Level		7	SRPRPC00	4	4	8	T_BYTE	ANA	CRPP0503		URPRPC00		
NRPD0327	TMDP	N	-12V Level		7	SRPRPC00	4	4	8	T_BYTE	ANA	CRPP0504		URPRPC00		
NRPD0330	TMDP	N	+28V Level		7	SRPRPC00	4	4	8	T_BYTE	ANA	CRPP0505		URPRPC00		
NRPD0337	TMDP	N	TC Count		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD0360	TMDP	N	System ID		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV0200		URPRPC00		
NRPD0362	TMDP	N	Main / Red Flag		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0110		URPRPC00		
NRPD0363	TMDP	N	Normal / Maint Flag		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0111		URPRPC00		
NRPD0364	TMDP	N	RAM Map Flag		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0112		URPRPC00		
NRPD0365	TMDP	N	Priority FIFO Level		7	SRPRPC00	3	7	11	T_11_BIT	NONE			URPRPC00		
NRPD0370	TMDP	N	PROM On / Off Flag		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0113		URPRPC00		
NRPD0371	TMDP	N	Mntr On / Off Flag		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0114		URPRPC00		
NRPD0372	TMDP	N	Normal FIFO Level		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPD0383	TMDP	N	Rx IES HK SID 1		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD0384	TMDP	N	Rx IES HK SID 2		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD0385	TMDP	N	Rx ICA HK SID 1		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD0386	TMDP	N	Rx ICA HK SID 2		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD0387	TMDP	N	Rx ICA HK SID 3		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD0388	TMDP	N	Rx ICA HK SID 4		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD0389	TMDP	N	Rx LAP HK SID 1		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD038A	TMDP	N	Rx LAP HK SID 2		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD038B	TMDP	N	Rx LAP HK SID 3		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD038C	TMDP	N	Rx LAP HK SID 4		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD038D	TMDP	N	Rx MIP HK SID 1		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD038E	TMDP	N	Rx MIP HK SID 2		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD038F	TMDP	N	Rx MAG HK SID 1		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD03A0	TMDP	N	PAD		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD03A8	TMDP	N	HK SID		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD1308	TMDP	N	Internal State		7	SRPRPC00	2	4	4	T_4_BIT	DIG	CRPV1303		URPRPC00		
NRPD1309	TMDP	N	Heartbeat		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD130C	TMDP	N	Communications Mode		7	SRPRPC00	2	4	4	T_4_BIT	DIG	CRPV1304		URPRPC00		
NRPD1310	TMDP	N	ROM Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1311	TMDP	N	SRAM1 Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1312	TMDP	N	SRAM2 Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1313	TMDP	N	EEPROM Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1314	TMDP	N	EEPROM Write Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPD1315	TMDP	N	Communications Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1316	TMDP	N	DEF HVPS Enable		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD1317	TMDP	N	ESA HVPS Enable		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD1318	TMDP	N	ELC MCP HVPS Enable		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD1319	TMDP	N	ION MCP HVPS Enable		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD131A	TMDP	N	Safe Arm Connector		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV120D		URPRPC00		
NRPD131C	TMDP	N	HV Control State		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV0103		URPRPC00		
NRPD131E	TMDP	N	ELC DEF HVPS Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD131F	TMDP	N	ION DEF HVPS Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1320	TMDP	N	ELC ESA HVPS Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1321	TMDP	N	ION ESA HVPS Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1322	TMDP	N	ELC MCP HVPS Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1323	TMDP	N	ION MCP HVPS Status		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1324	TMDP	N	Electron Counters State		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV1315		URPRPC00		
NRPD1326	TMDP	N	Ion Counters State		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV1315		URPRPC00		
NRPD1328	TMDP	N	POS 12V PS Status		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV0104		URPRPC00		
NRPD132A	TMDP	N	NEG 12V PS Status		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV0104		URPRPC00		
NRPD132C	TMDP	N	POS 5V PS Status		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV0104		URPRPC00		
NRPD132E	TMDP	N	NEG 5V PS Status		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV0104		URPRPC00		
NRPD1330	TMDP	N	SysStatReg:V8_PLUG		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD1331	TMDP	N	SysStatReg:HV_V8		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD1332	TMDP	N	SysStatReg:SAFE_PLUG		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD1333	TMDP	N	SysStatReg: HVPS_ON		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD1334	TMDP	N	Unit Identifier		7	SRPRPC00	2	3	3	T_3_BIT	DIG	CRPV131F		URPRPC00		
NRPD1337	TMDP	N	EEPROM Write Done		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV1126		URPRPC00		
NRPD1338	TMDP	N	SysStatReg:IO_RST_EN		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD1339	TMDP	N	SysStatReg:CNT_EN		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD133A	TMDP	N	SysStatReg:HV_EN		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD133B	TMDP	N	SysStatReg:EEPROM_EN		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD133C	TMDP	N	SysStatReg:EEPROM_RDY		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV1127		URPRPC00		
NRPD133D	TMDP	N	SysStatReg:CPU_ERR		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD133E	TMDP	N	SysStatReg:CLK_SEL		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV1227		URPRPC00		
NRPD1340	TMDP	N	Watchdog timer error		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1341	TMDP	N	Acquisition Enable		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0103		URPRPC00		
NRPD1342	TMDP	N	Thrust Warning		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1343	TMDP	N	Pressure Exceeded		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1344	TMDP	N	Pressure Grad Exceeded		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1345	TMDP	N	Giada Dust Exceeded		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1346	TMDP	N	Bad command detected		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1347	TMDP	N	Bad opcode detected		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0104		URPRPC00		
NRPD1348	TMDP	N	IES Last executed opcode		7	SRPRPC00	2	8	8	T_BYTE	DIG	CRPV132D		URPRPC00		
NRPD1350	TMDP	N	Number of executed cmds		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPD1360	TMDP	N	Number of received cmds		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD1368	TMDP	N	Number of illegal cmds		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPD1370	TMDP	N	Number of rejected cmds		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD1378	TMDP	N	Number of invalid cmds		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD1380	TMDP	N	Last sequence number		7	SRPRPC00	3	2	6	T_6_BIT	NONE			URPRPC00		
NRPD1386	TMDP	N	Sequence active flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPD1388	TMDP	N	Version number		7	SRPRPC00	3	0	4	T_4_BIT	NONE			URPRPC00		
NRPD138C	TMDP	N	Revision number		7	SRPRPC00	3	0	4	T_4_BIT	NONE			URPRPC00		
NRPD1390	TMDP	N	Control Flag		7	SRPRPC00	3	2	6	T_6_BIT	NONE			URPRPC00		
NRPD1396	TMDP	N	Monitor 1 Upper 10 bits		7	SRPRPC00	3	6	10	T_10_BIT	NONE			URPRPC00		
NRPD13A0	TMDP	N	Monitor 1 Lower 4 bits		7	SRPRPC00	3	0	4	T_4_BIT	NONE			URPRPC00		
NRPD13A4	TMDP	N	Monitor 2 Upper 12 bits		7	SRPRPC00	3	8	12	T_12_BIT	NONE			URPRPC00		
NRPD13B0	TMDP	N	Monitor 2 Lower 2 bits		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPD13B2	TMDP	N	Monitor 3		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPD1500	TMDP	N	ION DEF Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1501	TMDP	N	ELC DEF Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1502	TMDP	N	ION ESA Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1503	TMDP	N	ELC ESA Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1504	TMDP	N	HVMON Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1505	TMDP	N	ION MCP Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1506	TMDP	N	ELC MCP Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1507	TMDP	N	Positive 12V Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1508	TMDP	N	Negative 12V Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1509	TMDP	N	Positive 5V Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD150A	TMDP	N	Negative 5V Undervoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD150B	TMDP	N	ION DEF Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD150C	TMDP	N	ELC DEF Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD150D	TMDP	N	ION ESA Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD150E	TMDP	N	ELC ESA Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD150F	TMDP	N	HVMON Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1510	TMDP	N	ION MCP Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1511	TMDP	N	ELC MCP Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1512	TMDP	N	Positive 12V Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1513	TMDP	N	Negative 12V Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1514	TMDP	N	Positive 5V Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1515	TMDP	N	Negative 5V Overvoltage		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1516	TMDP	N	Org Connector		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV120D		URPRPC00		
NRPD1517	TMDP	N	New Connector		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV120D		URPRPC00		
NRPD1518	TMDP	N	Opcode		7	SRPRPC00	2	8	8	T_BYTE	DIG	CRPV132D		URPRPC00		
NRPD1519	TMDP	N	Command Byte 1		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD151A	TMDP	N	Command Byte 2		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD151B	TMDP	N	Command Byte 3		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD151C	TMDP	N	Command State		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD151D	TMDP	N	Opcode		7	SRPRPC00	2	8	8	T_BYTE	DIG	CRPV132D		URPRPC00		
NRPD151E	TMDP	N	Command Byte 1		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD151F	TMDP	N	Command Byte 2		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPD1520	TMDP	N	NonDiscrete Exp Discrete		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1521	TMDP	N	SumCheck Bit Set		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1522	TMDP	N	FIFO Incomplete		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1523	TMDP	N	FFRX Clear		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1524	TMDP	N	isr_nd0 ND0A		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1525	TMDP	N	ies_main ND0A		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1526	TMDP	N	ies_main ND0		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1527	TMDP	N	ies_main not NM		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1528	TMDP	N	isr_eop		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1529	TMDP	N	isr_nd0 not NM		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD152A	TMDP	N	ies_main Reset		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD152B	TMDP	N	isr_nd0 Reset		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD152C	TMDP	N	isr_nd0 ND0		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD152D	TMDP	N	Init not NM		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD152E	TMDP	N	isr_eop Reset		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD152F	TMDP	N	No EOP		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1530	TMDP	N	Ndata0A		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1531	TMDP	N	CRDMEM		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1532	TMDP	N	DATAV		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1533	TMDP	N	RESETM		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1534	TMDP	N	FFRX		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1535	TMDP	N	EOP rcvd		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1536	TMDP	N	Ndata0		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1537	TMDP	N	NM		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0101		URPRPC00		
NRPD1538	TMDP	N	Sequence Error Code		7	SRPRPC00	2	8	8	T_BYTE	DIG	CRPV1538		URPRPC00		
NRPD1539	TMDP	N	Sequence Data Byte		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD153A	TMDP	N	Pressure		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD153B	TMDP	N	Pressure Gradient		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD153C	TMGS	N	Pressure Threshold		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD153D	TMGS	N	Pressure Grad Threshold		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD153E	TMDP	N	Scratch Page		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPD153F	TMDP	N	Code Page		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPD1540	TMDP	N	Data Page		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPD1541	TMDP	N	ELC MCP Voltage		7	SRPRPC00	4	10	14	T_14_BIT	ANA	CRPP150A		URPRPC00		
NRPD1542	TMDP	N	ION MCP Voltage		7	SRPRPC00	4	10	14	T_14_BIT	ANA	CRPP150C		URPRPC00		
NRPD1543	TMDP	N	HVMON Voltage		7	SRPRPC00	4	10	14	T_14_BIT	ANA	CRPP150E		URPRPC00		
NRPD1544	TMDP	N	Negative 5V		7	SRPRPC00	4	10	14	T_14_BIT	ANA	CRPP151A		URPRPC00		
NRPD1545	TMDP	N	Positive 5V		7	SRPRPC00	4	10	14	T_14_BIT	ANA	CRPP151B		URPRPC00		
NRPD1546	TMDP	N	Negative 12V		7	SRPRPC00	4	10	14	T_14_BIT	ANA	CRPP151C		URPRPC00		
NRPD1547	TMDP	N	Positive 12V		7	SRPRPC00	4	10	14	T_14_BIT	ANA	CRPP151D		URPRPC00		
NRPD2300	TMDP	N	Mode		7	SRPRPC00	2	6	6	T_6_BIT	DIG	CRPV2381		URPRPC00		
NRPD2306	TMDP	N	Command status		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV2280		URPRPC00		
NRPD2308	TMDP	N	Deflection HV log. switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD2309	TMDP	N	Deflection LV log. switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPD230A	TMDP	N	Entrance HV log. switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD230B	TMDP	N	Grid LV log. switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD230C	TMDP	N	Postacc. HV log. switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD230D	TMDP	N	Main +28V switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD230E	TMDP	N	Opto +28V switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD230F	TMDP	N	Mcp +28V switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD2310	TMDP	N	New command received		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPD2311	TMDP	N	Sid type		7	SRPRPC00	2	3	3	T_3_BIT	DIG	CRPV2380		URPRPC00		
NRPD2314	TMDP	N	HV +28V enanble/disable		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV2182		URPRPC00		
NRPD2315	TMDP	N	Main +28V present		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV2182		URPRPC00		
NRPD2316	TMDP	N	Opto +28V present		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV2182		URPRPC00		
NRPD2317	TMDP	N	Mcp +28V present		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV2182		URPRPC00		
NRPD2318	TMDP	N	Fifo filling (F8)		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD2320	TMDP	N	Command return		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPD2330	TMDP	N	Opto HV monitor		7	SRPRPC00	3	4	8	T_BYTE	ANA	CRPP2530		URPRPC00		
NRPD2338	TMDP	N	Mcp HV monitor		7	SRPRPC00	3	4	8	T_BYTE	ANA	CRPP2538		URPRPC00		
NRPD2340	TMDP	N	Deflection HV monitor		7	SRPRPC00	3	4	8	T_BYTE	ANA	CRPP2540		URPRPC00		
NRPD2348	TMDP	N	Deflection LV monitor		7	SRPRPC00	3	4	8	T_BYTE	ANA	CRPP2548		URPRPC00		
NRPD2350	TMDP	N	Postacceleration HV monitor		7	SRPRPC00	3	4	8	T_BYTE	ANA	CRPP2550		URPRPC00		
NRPD2358	TMDP	N	Grid LV monitor		7	SRPRPC00	3	4	8	T_BYTE	ANA	CRPP2558		URPRPC00		
NRPD2360	TMDP	N	Sensor Temperature		7	SRPRPC00	3	4	8	T_BYTE	ANA	CRPP2560		URPRPC00		
NRPD2368	TMDP	N	DPU Temperature		7	SRPRPC00	3	4	8	T_BYTE	ANA	CRPP2568		URPRPC00		
NRPD2370	TMDP	N	Direct command switch		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV0100		URPRPC00		
NRPD2371	TMDP	N	Pacc. Low level reference		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPD2374	TMDP	N	Deflection HV reference		7	SRPRPC00	3	8	12	T_12_BIT	NONE			URPRPC00		
NRPD2380	TMDP	N	TM fifo overflow		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV2182		URPRPC00		
NRPD2381	TMDP	N	Pacc. High level reference		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPD2384	TMDP	N	Deflection LV reference		7	SRPRPC00	3	8	12	T_12_BIT	NONE			URPRPC00		
NRPD2390	TMDP	N	Pacc. Level		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV2181		URPRPC00		
NRPD2391	TMDP	N	Grid LV reference		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPD2394	TMDP	N	Entrance HV reference		7	SRPRPC00	3	8	12	T_12_BIT	NONE			URPRPC00		
NRPD23A0	TMDP	N	Opto HV default reference		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPD23A3	TMDP	N	Mcp HV default reference		7	SRPRPC00	3	0	4	T_4_BIT	NONE			URPRPC00		
NRPD23A7	TMDP	N	Upper entrance HV monitor		7	SRPRPC00	3	5	9	T_9_BIT	ANA	CRPP25A7		URPRPC00		
NRPD23B0	TMDP	N	Opto HV current reference		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPD23B3	TMDP	N	Mcp HV current reference		7	SRPRPC00	3	0	4	T_4_BIT	NONE			URPRPC00		
NRPD23B7	TMDP	N	Lower entrance HV monitor		7	SRPRPC00	3	5	9	T_9_BIT	ANA	CRPP25B7		URPRPC00		
NRPD3300	TMDP	N	PMAC		7	SRPRPC00	2	3	3	T_3_BIT	DIG	CRPV3300		URPRPC00		
NRPD3303	TMDP	N	EMAC		7	SRPRPC00	2	3	3	T_3_BIT	DIG	CRPV3303		URPRPC00		
NRPD3306	TMDP	N	WATCHD		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV3100		URPRPC00		
NRPD3307	TMDP	N	PROMEN		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV3307		URPRPC00		
NRPD3308	TMDP	N	Spare 1		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD3310	TMDP	N	LDLMODE		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV3310		URPRPC00		
NRPD3312	TMDP	N	Spare 2		7	SRPRPC00	3	1	5	T_5_BIT	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPD3317	TMDP	N	TEMP		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV3100		URPRPC00		
NRPD3318	TMDP	N	CDRIV2		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV3318		URPRPC00		
NRPD3319	TMDP	N	CDRIV1		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV3319		URPRPC00		
NRPD331A	TMDP	N	E2D216		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV331A		URPRPC00		
NRPD331B	TMDP	N	E1D116		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV331B		URPRPC00		
NRPD331C	TMDP	N	E2D120		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV331C		URPRPC00		
NRPD331D	TMDP	N	E1D120		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV331D		URPRPC00		
NRPD331E	TMDP	N	CNTRE2		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV331E		URPRPC00		
NRPD331F	TMDP	N	CNTRE1		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV331F		URPRPC00		
NRPD3320	TMDP	N	MIPLAP		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV3320		URPRPC00		
NRPD3321	TMDP	N	BTSTRP		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV3321		URPRPC00		
NRPD3322	TMDP	N	F2122		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV3322		URPRPC00		
NRPD3323	TMDP	N	F22EDDEDC		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV3323		URPRPC00		
NRPD3325	TMDP	N	F1121		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV3325		URPRPC00		
NRPD3326	TMDP	N	F11EDDEDC		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV3326		URPRPC00		
NRPD3328	TMDP	N	Spare 3		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD3330	TMDP	N	Calibration A		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD3338	TMDP	N	Calibration B		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD3350	TMDP	N	Spare 4		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD3358	TMDP	N	SWVersion		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD4310	TMDP	N	LDL synchro		7	SRPRPC00	2	2	2	T_2_BIT	DIG	CRPV4200		URPRPC00		
NRPD4312	TMDP	N	C/T seq. counter		7	SRPRPC00	2	6	6	T_6_BIT	NONE			URPRPC00		
NRPD4318	TMDP	N	LDL seq. counter		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD4320	TMDP	N	MIP seq. counter		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD4328	TMDP	N	Info. Passive		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD4330	TMDP	N	Info. Amp. Active		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD4338	TMDP	N	Info. Freq. Active		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD4340	TMDP	N	CONFIG Byte 0		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD4348	TMDP	N	CONFIG Byte 1		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD4350	TMDP	N	CONFIG Byte 2		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD4358	TMDP	N	CONFIG Byte 3		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD4360	TMDP	N	CONFIG Byte 4		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD4368	TMDP	N	CONFIG Byte 5		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD5301	TMDP	N	Sensor ID		7	SRPRPC00	2	1	1	T_1_BIT	DIG	CRPV5100		URPRPC00		
NRPD5302	TMDP	N	Stage 1 Filter ID		7	SRPRPC00	3	1	5	T_5_BIT	NONE			URPRPC00		
NRPD5307	TMDP	N	Stage 2 Filter ID		7	SRPRPC00	3	1	5	T_5_BIT	NONE			URPRPC00		
NRPD530C	TMDP	N	Anlg Ref (MS Nibble)		7	SRPRPC00	3	0	4	T_4_BIT	NONE			URPRPC00		
NRPD5340	TMDP	N	+5V Supply		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD5348	TMDP	N	-5V Supply		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPD8101	TMDP	N	Memory ID		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPD8102	TMDP	N	Number of Blocks		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPDH010	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH011	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH012	TMDP	N	RPC 83/1 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPDH013	TMDP	N	RPC 83/1 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH014	TMDP	N	RPC 83/1Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH015	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH016	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH017	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH018	TMDP	N	RPC 83/1 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH019	TMDP	N	RPC 83/1 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH040	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH041	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH042	TMDP	N	RPC 83/4 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH043	TMDP	N	RPC 83/4 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH044	TMDP	N	RPC 83/4Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH045	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH046	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH047	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH048	TMDP	N	RPC 83/4 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH049	TMDP	N	RPC 83/4 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH070	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH071	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH072	TMDP	N	RPC 83/7 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH073	TMDP	N	RPC 83/7 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH074	TMDP	N	RPC 83/7Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH075	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH076	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH077	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH078	TMDP	N	RPC 83/7 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH079	TMDP	N	RPC 83/7 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH090	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH091	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH092	TMDP	N	RPC 83/9 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH093	TMDP	N	RPC 83/9 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH094	TMDP	N	RPC 83/9 Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH095	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH096	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH097	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH098	TMDP	N	RPC 83/9 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH099	TMDP	N	RPC 83/9 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH110	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH111	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH112	TMDP	N	RPC 84/1 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH113	TMDP	N	RPC 84/1 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH114	TMDP	N	RPC 84/1Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH115	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH116	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPDH117	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH118	TMDP	N	RPC 84/1 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH119	TMDP	N	RPC 84/1 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH140	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH141	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH142	TMDP	N	RPC 84/4 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH143	TMDP	N	RPC 84/4 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH144	TMDP	N	RPC 84/4Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH145	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH146	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH147	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH148	TMDP	N	RPC 84/4 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH149	TMDP	N	RPC 84/4 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH170	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH171	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH172	TMDP	N	RPC 84/7 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH173	TMDP	N	RPC 84/7 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH174	TMDP	N	RPC 84/7Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH175	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH176	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH177	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH178	TMDP	N	RPC 84/7 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH179	TMDP	N	RPC 84/7 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH190	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH191	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH192	TMDP	N	RPC 84/9 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH193	TMDP	N	RPC 84/9 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH194	TMDP	N	RPC 84/9 Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH195	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH196	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH197	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH198	TMDP	N	RPC 84/9 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH199	TMDP	N	RPC 84/9 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH1C0	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH1C1	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH1C2	TMDP	N	RPC 84/12 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH1C3	TMDP	N	RPC 84/12 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH1C4	TMDP	N	RPC 84/12Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH1C5	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH1C6	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH1C7	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH1C8	TMDP	N	RPC 84/12 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH1C9	TMDP	N	RPC 84/12 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH210	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPDH211	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH212	TMDP	N	RPC 85/1 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH213	TMDP	N	RPC 85/1 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH214	TMDP	N	RPC 85/1Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH215	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH216	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH217	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH218	TMDP	N	RPC 85/1 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH219	TMDP	N	RPC 85/1 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH240	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH241	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH242	TMDP	N	RPC 85/4 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH243	TMDP	N	RPC 85/4 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH244	TMDP	N	RPC 85/4Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH245	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH246	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH247	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH248	TMDP	N	RPC 85/4 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH249	TMDP	N	RPC 85/4 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH270	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH271	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH272	TMDP	N	RPC 85/7 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH273	TMDP	N	RPC 85/7 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH274	TMDP	N	RPC 85/7Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH275	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH276	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH277	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH278	TMDP	N	RPC 85/7 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH279	TMDP	N	RPC 85/7 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH290	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH291	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH292	TMDP	N	RPC 85/9 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH293	TMDP	N	RPC 85/9 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH294	TMDP	N	RPC 85/9 Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH295	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH296	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH297	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH298	TMDP	N	RPC 85/9 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH299	TMDP	N	RPC 85/9 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH2C0	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH2C1	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH2C2	TMDP	N	RPC 85/12 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH2C3	TMDP	N	RPC 85/12 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH2C4	TMDP	N	RPC 85/12Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPDH2C5	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH2C6	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH2C7	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH2C8	TMDP	N	RPC 85/12 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH2C9	TMDP	N	RPC 85/12 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH310	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH311	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH312	TMDP	N	RPC 86/1 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH313	TMDP	N	RPC 86/1 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH314	TMDP	N	RPC 86/1Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH315	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH316	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH317	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH318	TMDP	N	RPC 86/1 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH319	TMDP	N	RPC 86/1 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH340	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH341	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH342	TMDP	N	RPC 86/4 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH343	TMDP	N	RPC 86/4 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH344	TMDP	N	RPC 86/4Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH345	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH346	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH347	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH348	TMDP	N	RPC 86/4 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH349	TMDP	N	RPC 86/4 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH370	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH371	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH372	TMDP	N	RPC 86/7 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH373	TMDP	N	RPC 86/7 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH374	TMDP	N	RPC 86/7Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH375	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH376	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH377	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH378	TMDP	N	RPC 86/7 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH379	TMDP	N	RPC 86/7 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH390	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH391	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH392	TMDP	N	RPC 86/9 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH393	TMDP	N	RPC 86/9 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH394	TMDP	N	RPC 86/9 Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH395	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH396	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH397	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH398	TMDP	N	RPC 86/9 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPDH399	TMDP	N	RPC 86/9 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH3C0	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH3C1	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH3C2	TMDP	N	RPC 86/12 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH3C3	TMDP	N	RPC 86/12 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH3C4	TMDP	N	RPC 86/12Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH3C5	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH3C6	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH3C7	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH3C8	TMDP	N	RPC 86/12 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH3C9	TMDP	N	RPC 86/12 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH410	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH411	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH412	TMDP	N	RPC 87/1 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH413	TMDP	N	RPC 87/1 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH414	TMDP	N	RPC 87/1Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH415	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH416	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH417	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH418	TMDP	N	RPC 87/1 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH419	TMDP	N	RPC 87/1 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH440	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH441	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH442	TMDP	N	RPC 87/4 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH443	TMDP	N	RPC 87/4 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH444	TMDP	N	RPC 87/4Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH445	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH446	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH447	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH448	TMDP	N	RPC 87/4 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH449	TMDP	N	RPC 87/4 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH4C0	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH4C1	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH4C2	TMDP	N	RPC 87/12 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH4C3	TMDP	N	RPC 87/12 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH4C4	TMDP	N	RPC 87/12Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH4C5	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH4C6	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH4C7	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH4C8	TMDP	N	RPC 87/12 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH4C9	TMDP	N	RPC 87/12 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH510	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH511	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH512	TMDP	N	RPC 88/1 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		

NAME	CATEGORY	GCPASS	LNAME	RED_NAME	USAGE	SGRP_NAME	PTC	PFC	TMPA_SIZE	ADA_TYPE	CALIB_TYPE	CALC_NAME_1	CALC_NAME_2	UNIT_NAME_SELC1	UNIT_NAME_SELC1R	UNIT_NAME_SELC2
NRPDH513	TMDP	N	RPC 88/1 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH514	TMDP	N	RPC 88/1Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH515	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH516	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH517	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH518	TMDP	N	RPC 88/1 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH519	TMDP	N	RPC 88/1 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH540	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH541	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH542	TMDP	N	RPC 88/4 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH543	TMDP	N	RPC 88/4 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH544	TMDP	N	RPC 88/4Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH545	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH546	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH547	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH548	TMDP	N	RPC 88/4 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH549	TMDP	N	RPC 88/4 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH5C0	TMDP	N	Data field header pad		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH5C1	TMDP	N	Segmentation Flag		7	SRPRPC00	2	2	2	T_2_BIT	NONE			URPRPC00		
NRPDH5C2	TMDP	N	RPC 88/12 Source sequence counter		7	SRPRPC00	3	10	14	T_14_BIT	NONE			URPRPC00		
NRPDH5C3	TMDP	N	RPC 88/12 Coarse time		7	SRPRPC00	3	14	32	T_32_BIT	NONE			URPRPC00		
NRPDH5C4	TMDP	N	RPC 88/12Fine time		7	SRPRPC00	3	12	16	T_WORD	NONE			URPRPC00		
NRPDH5C5	TMDP	N	PUS version number		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDH5C6	TMDP	N	Checksum flag		7	SRPRPC00	2	1	1	T_1_BIT	NONE			URPRPC00		
NRPDH5C7	TMDP	N	Data field header spare parameter		7	SRPRPC00	2	4	4	T_4_BIT	NONE			URPRPC00		
NRPDH5C8	TMDP	N	RPC 88/12 Packet Type		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDH5C9	TMDP	N	RPC 88/12 Packet Subtype		7	SRPRPC00	2	8	8	T_BYTE	NONE			URPRPC00		
NRPDST01	TMDP	N	PID		7	SRPRPC00	3	3	7	T_7_BIT	NONE			URPRPC00		
NRPDST02	TMDP	N	PktCategory		7	SRPRPC00	3	0	4	T_4_BIT	NONE			URPRPC00		
NRPDST03	TMDP	N	Source		7	SRPRPC00	2	3	3	T_3_BIT	NONE			URPRPC00		
NRPDST04	TMDP	N	Counter		7	SRPRPC00	3	7	11	T_11_BIT	NONE			URPRPC00		
NRPDST05	TMDP	N	TC Type		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPDST06	TMDP	N	TC Sub-type		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPDST10	TMDP	N	Position		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		
NRPDST11	TMDP	N	Value		7	SRPRPC00	3	4	8	T_BYTE	NONE			URPRPC00		

NAME	ENGLABEL	IS_COCO	IS_COUNTER	IS_COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPA0300		N	N							NONE										0	0
NRPA0310		N	N							NONE										0	0
NRPA0320		N	N							NONE										0	0
NRPA0330		N	N							NONE										0	0
NRPA0340		N	N							NONE										0	0
NRPA0350		N	Y	4	0	65535				NONE										0	0
NRPA0360		N	N							NONE										0	0
NRPA0370		N	N							NONE										0	0
NRPA0380		N	N							NONE										0	0
NRPA0390		N	N							NONE										0	0
NRPA03A0		N	N							NONE										0	0
NRPA0500		N	N							NONE										0	0
NRPA0501		N	N							NONE										0	0
NRPA0502		N	N							NONE										0	0
NRPA0503		N	N							NONE										0	0
NRPA0505		N	N							NONE										0	0
NRPA0506		N	N							NONE										0	0
NRPA0507		N	N							NONE										0	0
NRPA0508		N	N							NONE										0	0
NRPA0509		N	N							NONE										0	0
NRPA0510		N	N							NONE										0	0
NRPA0511		N	N							NONE										0	0
NRPA0512		N	N							NONE										0	0
NRPA0513		N	N							NONE										0	0
NRPA0514		N	N							NONE										0	0
NRPA0515		N	N							NONE										0	0
NRPA0516		N	N							NONE										0	0
NRPA0517		N	N							NONE										0	0
NRPA0518		N	N							NONE										0	0
NRPA0519		N	N							NONE										0	0
NRPA0520		N	N							NONE										0	0
NRPA0521		N	N							NONE										0	0
NRPA0522		N	N							NONE										0	0
NRPA0523		N	N							NONE										0	0
NRPA0524		N	N							NONE										0	0
NRPA0525		N	N							NONE										0	0
NRPA0526		N	N							NONE										0	0
NRPA0527		N	N							NONE										0	0
NRPA0528		N	N							NONE										0	0
NRPA0529		N	N							NONE										0	0
NRPA1300		N	N							NONE										0	0
NRPA1310		N	N							NONE										0	0
NRPA1320		N	N							NONE										0	0

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPA1330		N	N							NONE										0	0
NRPA1340		N	N							NONE										0	0
NRPA1350		N	N							NONE										0	0
NRPA1360		N	N							NONE										0	0
NRPA1370		N	N							NONE										0	0
NRPA1380		N	N							NONE										0	0
NRPA1390		N	N							NONE										0	0
NRPA13A0		N	N							NONE										0	0
NRPA13B0		N	N							NONE										0	0
NRPA150A		N	N							NONE										0	0
NRPA150C		N	N							NONE											
NRPA150E		N	N							NONE										0	0
NRPA1510		N	N							NONE											
NRPA1511		N	N							NONE										0	0
NRPA1512		N	N							NONE											
NRPA1513		N	N							NONE										0	0
NRPA1514		N	N							NONE										0	0
NRPA1515		N	N							NONE										0	0
NRPA1516		N	N							NONE										0	0
NRPA1518		N	N							NONE										0	0
NRPA1519		N	N							NONE										0	0
NRPA151A		N	N							NONE										0	0
NRPA151B		N	N							NONE										0	0
NRPA151C		N	N							NONE										0	0
NRPA151D		N	N							NONE										0	0
NRPA151E		N	N							NONE										0	0
NRPA151F		N	N							NONE										0	0
NRPA1520		N	N							NONE										0	0
NRPA1521		N	N							NONE										0	0
NRPA1522		N	N							NONE										0	0
NRPA1523		N	N							NONE										0	0
NRPA1524		N	N							NONE										0	0
NRPA1525		N	N							NONE										0	0
NRPA1528		N	N							NONE										0	0
NRPA1529		N	N							NONE										0	0
NRPA152A		N	N							NONE										0	0
NRPA152B		N	N							NONE										0	0
NRPA152C		N	N							NONE										0	0
NRPA152E		N	N							NONE										0	0
NRPA152F		N	N							NONE										0	0
NRPA1530		N	N							NONE										0	0
NRPA1531		N	N							NONE										0	0
NRPA2300		N	N							NONE										0	0
NRPA2310		N	N							NONE										0	0

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPA2320		N	N							NONE										0	0
NRPA2330		N	N							NONE										0	0
NRPA2340		N	N							NONE										0	0
NRPA2350		N	N							NONE										0	0
NRPA2360		N	N							NONE										0	0
NRPA2370		N	N							NONE										0	0
NRPA2380		N	N							NONE										0	0
NRPA2390		N	N							NONE										0	0
NRPA23A0		N	N							NONE										0	0
NRPA23B0		N	N							NONE										0	0
NRPA2500		N	N							NONE										0	0
NRPA2501		N	N							NONE										0	0
NRPA2510		N	N							NONE										0	0
NRPA2511		N	N							NONE										0	0
NRPA2520		N	N							NONE										0	0
NRPA2521		N	N							NONE										0	0
NRPA2530		N	N							NONE										0	0
NRPA2531		N	N							NONE										0	0
NRPA2540		N	N							NONE										0	0
NRPA2541		N	N							NONE										0	0
NRPA3300		N	N							NONE										0	0
NRPA3310		N	N							NONE										0	0
NRPA3320		N	N							NONE										0	0
NRPA3330		N	N							NONE										0	0
NRPA3340		N	N							NONE										0	0
NRPA3350		N	N							NONE										0	0
NRPA3501		N	N							NONE										0	0
NRPA3502		N	N							NONE										0	0
NRPA4310		N	N							NONE										0	0
NRPA4320		N	N							NONE										0	0
NRPA4330		N	N							NONE										0	0
NRPA4340		N	N							NONE										0	0
NRPA4350		N	N							NONE										0	0
NRPA4360		N	N							NONE										0	0
NRPA4370	C	N	N							NONE										0	0
NRPA5300		N	N							NONE										0	0
NRPA5310		N	N							NONE										0	0
NRPA5320	C	N	N				LRPA5320			NONE										0	0
NRPA5330	C	N	N				LRPA5330			NONE										0	0
NRPA5340		N	N							NONE										0	0
NRPA5350	T	N	N							NONE										0	0
NRPA5360	T	N	N							NONE										0	0
NRPA5370	T	N	N							NONE										0	0
NRPA5501		N	N							NONE										0	0

NAME	ENGLABEL	IS_COCO	IS_COUNTER	IS_COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPA5502		N	N							NONE										0	0
NRPA5503		N	N							NONE										0	0
NRPA5504		N	N							NONE										0	0
NRPA5505		N	N							NONE										0	0
NRPA5506		N	N							NONE										0	0
NRPA5507		N	N							NONE										0	0
NRPA8100		N	N							NONE										0	0
NRPA8200		N	N							NONE										0	0
NRPA8300		N	N							NONE										0	0
NRPA8400		N	N							NONE										0	0
NRPA8500		N	N							NONE										0	0
NRPAH011		N	N							NONE										0	0
NRPAH012		N	N							NONE										0	0
NRPAH013		N	N							NONE										0	0
NRPAH014		N	N							NONE										0	0
NRPAH041		N	N							NONE										0	0
NRPAH042		N	N							NONE										0	0
NRPAH043		N	N							NONE										0	0
NRPAH044		N	N							NONE										0	0
NRPAH071		N	N							NONE										0	0
NRPAH072		N	N							NONE										0	0
NRPAH073		N	N							NONE										0	0
NRPAH074		N	N							NONE										0	0
NRPAH091		N	N							NONE										0	0
NRPAH092		N	N							NONE										0	0
NRPAH093		N	N							NONE										0	0
NRPAH094		N	N							NONE										0	0
NRPAH111		N	N							NONE										0	0
NRPAH112		N	N							NONE										0	0
NRPAH113		N	N							NONE										0	0
NRPAH114		N	N							NONE										0	0
NRPAH141		N	N							NONE										0	0
NRPAH142		N	N							NONE										0	0
NRPAH143		N	N							NONE										0	0
NRPAH144		N	N							NONE										0	0
NRPAH171		N	N							NONE										0	0
NRPAH172		N	N							NONE										0	0
NRPAH173		N	N							NONE										0	0
NRPAH174		N	N							NONE										0	0
NRPAH191		N	N							NONE										0	0
NRPAH192		N	N							NONE										0	0
NRPAH193		N	N							NONE										0	0
NRPAH194		N	N							NONE										0	0
NRPAH1C1		N	N							NONE										0	0

NAME	ENGLABEL	IS_COCO	IS_COUNTER	IS_COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPAH1C2		N	N							NONE										0	0
NRPAH1C3		N	N							NONE										0	0
NRPAH1C4		N	N							NONE										0	0
NRPAH211		N	N							NONE										0	0
NRPAH212		N	N							NONE										0	0
NRPAH213		N	N							NONE										0	0
NRPAH214		N	N							NONE										0	0
NRPAH241		N	N							NONE										0	0
NRPAH242		N	N							NONE										0	0
NRPAH243		N	N							NONE										0	0
NRPAH244		N	N							NONE										0	0
NRPAH271		N	N							NONE										0	0
NRPAH272		N	N							NONE										0	0
NRPAH273		N	N							NONE										0	0
NRPAH274		N	N							NONE										0	0
NRPAH291		N	N							NONE										0	0
NRPAH292		N	N							NONE										0	0
NRPAH293		N	N							NONE										0	0
NRPAH294		N	N							NONE										0	0
NRPAH2C1		N	N							NONE										0	0
NRPAH2C2		N	N							NONE										0	0
NRPAH2C3		N	N							NONE										0	0
NRPAH2C4		N	N							NONE										0	0
NRPAH311		N	N							NONE										0	0
NRPAH312		N	N							NONE										0	0
NRPAH313		N	N							NONE										0	0
NRPAH314		N	N							NONE										0	0
NRPAH341		N	N							NONE										0	0
NRPAH342		N	N							NONE										0	0
NRPAH343		N	N							NONE										0	0
NRPAH344		N	N							NONE										0	0
NRPAH371		N	N							NONE										0	0
NRPAH372		N	N							NONE										0	0
NRPAH373		N	N							NONE										0	0
NRPAH374		N	N							NONE										0	0
NRPAH391		N	N							NONE										0	0
NRPAH392		N	N							NONE										0	0
NRPAH393		N	N							NONE										0	0
NRPAH394		N	N							NONE										0	0
NRPAH3C1		N	N							NONE										0	0
NRPAH3C2		N	N							NONE										0	0
NRPAH3C3		N	N							NONE										0	0
NRPAH3C4		N	N							NONE										0	0
NRPAH411		N	N							NONE										0	0

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPAH412		N	N							NONE										0	0
NRPAH413		N	N							NONE										0	0
NRPAH414		N	N							NONE										0	0
NRPAH441		N	N							NONE										0	0
NRPAH442		N	N							NONE										0	0
NRPAH443		N	N							NONE										0	0
NRPAH444		N	N							NONE										0	0
NRPAH4C1		N	N							NONE										0	0
NRPAH4C2		N	N							NONE										0	0
NRPAH4C3		N	N							NONE										0	0
NRPAH4C4		N	N							NONE										0	0
NRPAH511		N	N							NONE										0	0
NRPAH512		N	N							NONE										0	0
NRPAH513		N	N							NONE										0	0
NRPAH514		N	N							NONE										0	0
NRPAH541		N	N							NONE										0	0
NRPAH542		N	N							NONE										0	0
NRPAH543		N	N							NONE										0	0
NRPAH544		N	N							NONE										0	0
NRPAH5C1		N	N							NONE										0	0
NRPAH5C2		N	N							NONE										0	0
NRPAH5C3		N	N							NONE										0	0
NRPAH5C4		N	N							NONE										0	0
NRPASDTA	SDT	N	N							DMS	SERIAL	RBDRTUPL	198	GenericSDT	RBDRTUPL	230	GenericSDT	1	1	0	0
NRPAST01		N	N							NONE										0	0
NRPAST02		N	N							NONE										0	0
NRPAST03		N	N							NONE										0	0
NRPAST04		N	N							NONE										0	0
NRPAST10		N	N							NONE										0	0
NRPAST11		N	N							NONE										0	0
NRPAST12		N	N							NONE										0	0
NRPAST13		N	N							NONE										0	0
NRPAST14		N	N							NONE										0	0
NRPAST15		N	N							NONE										0	0
NRPAST20		N	N							NONE										0	0
NRPAT001	degC	N	N				LRP00001			DMS	THERMIST	RBDRTUPL	14					1	1	0	0
NRPAT002	degC	N	N				LRP00002			DMS	THERMIST	RBDRTUPL	142					1	1	0	0
NRPAT003	degC	N	N				LRP00003			DMS	THERMIST	RBDRTUPL	9					1	1	0	0
NRPD0300		Y	N					NRPA0300	0	NONE											
NRPD0301		Y	N					NRPA0300	1	NONE											
NRPD0302		Y	N					NRPA0300	2	NONE											
NRPD0303		Y	N					NRPA0300	3	NONE											
NRPD0304		Y	N					NRPA0300	4	NONE											
NRPD0305		Y	N					NRPA0300	5	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPD0306	degC	N	N					NRPA0300	6	NONE											
NRPD0309		N	N					NRPA0300	9	NONE											
NRPD0310	V	N	N				LRPD0310	NRPA0310	0	NONE											
NRPD0317	V	N	N				LRPD0317	NRPA0310	8	NONE											
NRPD0320	V	N	N				LRPD0320	NRPA0320	0	NONE											
NRPD0327	V	N	N				LRPD0327	NRPA0320	8	NONE											
NRPD0330	V	N	N				LRPD0330	NRPA0330	0	NONE											
NRPD0337		N	Y	1	0	65535		NRPA0330	8	NONE											
NRPD0360		N	N					NRPA0360	0	NONE											
NRPD0362		Y	N					NRPA0360	2	NONE											
NRPD0363		Y	N					NRPA0360	3	NONE											
NRPD0364		Y	N					NRPA0360	4	NONE											
NRPD0365		N	N				LRPD0365	NRPA0360	5	NONE											
NRPD0370		Y	N					NRPA0370	0	NONE											
NRPD0371		Y	N					NRPA0370	1	NONE											
NRPD0372		N	N				LRPD0372	NRPA0370	2	NONE											
NRPD0383		N	N					NRPA0380	3	NONE											
NRPD0384		N	N					NRPA0380	4	NONE											
NRPD0385		N	N					NRPA0380	5	NONE											
NRPD0386		N	N					NRPA0380	6	NONE											
NRPD0387		N	N					NRPA0380	7	NONE											
NRPD0388		N	N					NRPA0380	8	NONE											
NRPD0389		N	N					NRPA0380	9	NONE											
NRPD038A		N	N					NRPA0380	10	NONE											
NRPD038B		N	N					NRPA0380	11	NONE											
NRPD038C		N	N					NRPA0380	12	NONE											
NRPD038D		N	N					NRPA0380	13	NONE											
NRPD038E		N	N					NRPA0380	14	NONE											
NRPD038F		N	N					NRPA0380	15	NONE											
NRPD03A0		N	N					NRPA03A0	0	NONE											
NRPD03A8		N	N					NRPA03A0	8	NONE											
NRPD1308		N	N					NRPA1300	8	NONE											
NRPD1309		N	N					NRPA1300	0	NONE											
NRPD130C		Y	N					NRPA1300	12	NONE											
NRPD1310		N	N				LRPD1104	NRPA1310	0	NONE											
NRPD1311		N	N				LRPD1104	NRPA1310	1	NONE											
NRPD1312		N	N				LRPD1104	NRPA1310	2	NONE											
NRPD1313		N	N				LRPD1104	NRPA1310	3	NONE											
NRPD1314		Y	N				LRPD1104	NRPA1310	4	NONE											
NRPD1315		Y	N				LRPD1104	NRPA1310	5	NONE											
NRPD1316		Y	N					NRPA1310	6	NONE											
NRPD1317		Y	N					NRPA1310	7	NONE											
NRPD1318		Y	N					NRPA1310	8	NONE											
NRPD1319		Y	N					NRPA1310	9	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPD131A		N	N				LRPD131A	NRPA1310	10	NONE											
NRPD131C		Y	N					NRPA1310	12	NONE											
NRPD131E		N	N					NRPA1310	14	NONE											
NRPD131F		N	N					NRPA1310	15	NONE											
NRPD1320		N	N				LRPD1104	NRPA1320	0	NONE											
NRPD1321		N	N				LRPD1104	NRPA1320	1	NONE											
NRPD1322		N	N				LRPD1104	NRPA1320	2	NONE											
NRPD1323		N	N				LRPD1104	NRPA1320	3	NONE											
NRPD1324		N	N					NRPA1320	4	NONE											
NRPD1326		N	N					NRPA1320	6	NONE											
NRPD1328		N	N				LRPD1104	NRPA1320	8	NONE											
NRPD132A		N	N				LRPD1104	NRPA1320	10	NONE											
NRPD132C		N	N				LRPD1104	NRPA1320	12	NONE											
NRPD132E		N	N				LRPD1104	NRPA1320	14	NONE											
NRPD1330		N	N				LRPD1104	NRPA1330	0	NONE											
NRPD1331		N	N				LRPD1104	NRPA1330	1	NONE											
NRPD1332		N	N				LRPD1104	NRPA1330	2	NONE											
NRPD1333		Y	N				LRPD1104	NRPA1330	3	NONE											
NRPD1334		N	N					NRPA1330	4	NONE											
NRPD1337		N	N					NRPA1330	7	NONE											
NRPD1338		Y	N					NRPA1330	8	NONE											
NRPD1339		Y	N					NRPA1330	9	NONE											
NRPD133A		Y	N					NRPA1330	10	NONE											
NRPD133B		Y	N					NRPA1330	11	NONE											
NRPD133C		Y	N					NRPA1330	12	NONE											
NRPD133D		N	N				LRPD1104	NRPA1330	13	NONE											
NRPD133E		Y	N					NRPA1330	14	NONE											
NRPD1340		N	N				LRPD1104	NRPA1340	0	NONE											
NRPD1341		Y	N					NRPA1340	1	NONE											
NRPD1342		Y	N					NRPA1340	2	NONE											
NRPD1343		Y	N					NRPA1340	3	NONE											
NRPD1344		Y	N					NRPA1340	4	NONE											
NRPD1345		Y	N					NRPA1340	5	NONE											
NRPD1346		Y	N				LRPD1104	NRPA1340	6	NONE											
NRPD1347		Y	N				LRPD1104	NRPA1340	7	NONE											
NRPD1348		Y	N					NRPA1340	8	NONE											
NRPD1350		N	Y	1	0	65535		NRPA1350	0	NONE											
NRPD1360		N	Y	1	0	256		NRPA1360	0	NONE											
NRPD1368		N	Y	1	0	256		NRPA1360	8	NONE											
NRPD1370		N	Y	1	0	256		NRPA1370	0	NONE											
NRPD1378		N	Y	1	0	256		NRPA1370	8	NONE											
NRPD1380		N	N					NRPA1380	0	NONE											
NRPD1386		N	N					NRPA1380	6	NONE											
NRPD1388		N	N					NRPA1380	8	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPD138C		N	N					NRPA1380	12	NONE											
NRPD1390		N	N					NRPA1390	0	NONE											
NRPD1396		N	N					NRPA1390	6	NONE											
NRPD13A0		N	N					NRPA13A0	0	NONE											
NRPD13A4		N	N					NRPA13A0	4	NONE											
NRPD13B0		N	N					NRPA13B0	0	NONE											
NRPD13B2		N	N					NRPA13B0	2	NONE											
NRPD1500		N	N					NRPA1518	5	NONE											
NRPD1501		N	N					NRPA1518	6	NONE											
NRPD1502		N	N					NRPA1518	7	NONE											
NRPD1503		N	N					NRPA1518	8	NONE											
NRPD1504		N	N					NRPA1518	9	NONE											
NRPD1505		N	N					NRPA1518	10	NONE											
NRPD1506		N	N					NRPA1518	11	NONE											
NRPD1507		N	N					NRPA1518	12	NONE											
NRPD1508		N	N					NRPA1518	13	NONE											
NRPD1509		N	N					NRPA1518	14	NONE											
NRPD150A		N	N					NRPA1518	15	NONE											
NRPD150B		N	N					NRPA1530	5	NONE											
NRPD150C		N	N					NRPA1530	6	NONE											
NRPD150D		N	N					NRPA1530	7	NONE											
NRPD150E		N	N					NRPA1530	8	NONE											
NRPD150F		N	N					NRPA1530	9	NONE											
NRPD1510		N	N					NRPA1530	10	NONE											
NRPD1511		N	N					NRPA1530	11	NONE											
NRPD1512		N	N					NRPA1530	12	NONE											
NRPD1513		N	N					NRPA1530	13	NONE											
NRPD1514		N	N					NRPA1530	14	NONE											
NRPD1515		N	N					NRPA1530	15	NONE											
NRPD1516		N	N					NRPA1519	14	NONE											
NRPD1517		N	N					NRPA1531	14	NONE											
NRPD1518		N	N					NRPA151E	0	NONE											
NRPD1519		N	N					NRPA151E	8	NONE											
NRPD151A		N	N					NRPA151F	0	NONE											
NRPD151B		N	N					NRPA151F	8	NONE											
NRPD151C		N	N					NRPA1520	0	NONE											
NRPD151D		N	N					NRPA1520	8	NONE											
NRPD151E		N	N					NRPA1521	0	NONE											
NRPD151F		N	N					NRPA1521	8	NONE											
NRPD1520		N	N					NRPA1522	0	NONE											
NRPD1521		N	N					NRPA1522	1	NONE											
NRPD1522		N	N					NRPA1522	2	NONE											
NRPD1523		N	N					NRPA1522	3	NONE											
NRPD1524		N	N					NRPA1522	4	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPD1525		N	N					NRPA1522	5	NONE											
NRPD1526		N	N					NRPA1522	6	NONE											
NRPD1527		N	N					NRPA1522	7	NONE											
NRPD1528		N	N					NRPA1522	8	NONE											
NRPD1529		N	N					NRPA1522	9	NONE											
NRPD152A		N	N					NRPA1522	10	NONE											
NRPD152B		N	N					NRPA1522	11	NONE											
NRPD152C		N	N					NRPA1522	12	NONE											
NRPD152D		N	N					NRPA1522	13	NONE											
NRPD152E		N	N					NRPA1522	14	NONE											
NRPD152F		N	N					NRPA1522	15	NONE											
NRPD1530		N	N					NRPA1523	8	NONE											
NRPD1531		N	N					NRPA1523	9	NONE											
NRPD1532		N	N					NRPA1523	10	NONE											
NRPD1533		N	N					NRPA1523	11	NONE											
NRPD1534		N	N					NRPA1523	12	NONE											
NRPD1535		N	N					NRPA1523	13	NONE											
NRPD1536		N	N					NRPA1523	14	NONE											
NRPD1537		N	N					NRPA1523	15	NONE											
NRPD1538		N	N					NRPA1524	0	NONE											
NRPD1539		N	N					NRPA1524	8	NONE											
NRPD153A		N	N					NRPA152A	0	NONE											
NRPD153B		N	N					NRPA152A	8	NONE											
NRPD153C		N	N							NONE											
NRPD153D		N	N							NONE											
NRPD153E		N	N					NRPA152E	4	NONE											
NRPD153F		N	N					NRPA152E	8	NONE											
NRPD1540		N	N					NRPA152E	12	NONE											
NRPD1541	V	N	N					NRPA150A	2	NONE											
NRPD1542	V	N	N					NRPA150C	2	NONE											
NRPD1543	V	N	N					NRPA150E	2	NONE											
NRPD1544	V	N	N					NRPA151A	2	NONE											
NRPD1545	V	N	N					NRPA151B	2	NONE											
NRPD1546	V	N	N					NRPA151C	2	NONE											
NRPD1547	V	N	N					NRPA151D	2	NONE											
NRPD2300		N	N					NRPA2300	0	NONE											
NRPD2306		N	N					NRPA2300	6	NONE											
NRPD2308		Y	N					NRPA2300	8	NONE											
NRPD2309		Y	N					NRPA2300	9	NONE											
NRPD230A		Y	N					NRPA2300	10	NONE											
NRPD230B		Y	N					NRPA2300	11	NONE											
NRPD230C		Y	N					NRPA2300	12	NONE											
NRPD230D		Y	N					NRPA2300	13	NONE											
NRPD230E		Y	N					NRPA2300	14	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPD230F		Y	N					NRPA2300	15	NONE											
NRPD2310		Y	N					NRPA2310	0	NONE											
NRPD2311		Y	N					NRPA2310	1	NONE											
NRPD2314		Y	N					NRPA2310	4	NONE											
NRPD2315		N	N					NRPA2310	5	NONE											
NRPD2316		Y	N					NRPA2310	6	NONE											
NRPD2317		Y	N					NRPA2310	7	NONE											
NRPD2318		N	N					NRPA2310	8	NONE											
NRPD2320		N	N					NRPA2320	0	NONE											
NRPD2330	kV	N	N					NRPA2330	0	NONE											
NRPD2338	kV	N	N					NRPA2330	8	NONE											
NRPD2340	kV	N	N					NRPA2340	0	NONE											
NRPD2348	V	N	N					NRPA2340	8	NONE											
NRPD2350	kV	N	N					NRPA2350	0	NONE											
NRPD2358	V	N	N					NRPA2350	8	NONE											
NRPD2360	C	N	N				LRPD2360	NRPA2360	0	NONE											
NRPD2368	C	N	N				LRPD2368	NRPA2360	8	NONE											
NRPD2370		Y	N					NRPA2370	0	NONE											
NRPD2371		N	N					NRPA2370	1	NONE											
NRPD2374		N	N					NRPA2370	4	NONE											
NRPD2380		N	N					NRPA2380	0	NONE											
NRPD2381		N	N					NRPA2380	1	NONE											
NRPD2384		N	N					NRPA2380	4	NONE											
NRPD2390		N	N					NRPA2390	0	NONE											
NRPD2391		N	N					NRPA2390	1	NONE											
NRPD2394		N	N					NRPA2390	4	NONE											
NRPD23A0		N	N					NRPA23A0	0	NONE											
NRPD23A3		N	N					NRPA23A0	3	NONE											
NRPD23A7	kV	N	N					NRPA23A0	7	NONE											
NRPD23B0		N	N					NRPA23B0	0	NONE											
NRPD23B3		N	N					NRPA23B0	3	NONE											
NRPD23B7	kV	N	N					NRPA23B0	7	NONE											
NRPD3300		N	N					NRPA3300	0	NONE											
NRPD3303		N	N					NRPA3300	3	NONE											
NRPD3306		N	N					NRPA3300	6	NONE											
NRPD3307		N	N					NRPA3300	7	NONE											
NRPD3308		N	N					NRPA3300	8	NONE											
NRPD3310		N	N					NRPA3310	0	NONE											
NRPD3312		N	N					NRPA3310	2	NONE											
NRPD3317		N	N					NRPA3310	7	NONE											
NRPD3318		N	N					NRPA3310	8	NONE											
NRPD3319		N	N					NRPA3310	9	NONE											
NRPD331A		N	N					NRPA3310	10	NONE											
NRPD331B		N	N					NRPA3310	11	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPD331C		N	N					NRPA3310	12	NONE											
NRPD331D		N	N					NRPA3310	13	NONE											
NRPD331E		N	N					NRPA3310	14	NONE											
NRPD331F		N	N					NRPA3310	15	NONE											
NRPD3320		N	N					NRPA3320	0	NONE											
NRPD3321		N	N					NRPA3320	1	NONE											
NRPD3322		N	N					NRPA3320	2	NONE											
NRPD3323		N	N					NRPA3320	3	NONE											
NRPD3325		N	N					NRPA3320	5	NONE											
NRPD3326		N	N					NRPA3320	6	NONE											
NRPD3328		N	N					NRPA3320	8	NONE											
NRPD3330		N	N					NRPA3330	0	NONE											
NRPD3338		N	N					NRPA3330	8	NONE											
NRPD3350		N	N					NRPA3350	0	NONE											
NRPD3358		N	N					NRPA3350	8	NONE											
NRPD4310		N	N					NRPA4310	0	NONE											
NRPD4312		N	Y	1	0	63		NRPA4310	2	NONE											
NRPD4318		N	Y	1	0	255		NRPA4310	8	NONE											
NRPD4320		N	Y	1	0	255		NRPA4320	0	NONE											
NRPD4328		N	N					NRPA4320	8	NONE											
NRPD4330		N	N					NRPA4330	0	NONE											
NRPD4338		N	N					NRPA4330	8	NONE											
NRPD4340		N	N					NRPA4340	0	NONE											
NRPD4348		N	N					NRPA4340	8	NONE											
NRPD4350		N	N					NRPA4350	0	NONE											
NRPD4358		N	N					NRPA4350	8	NONE											
NRPD4360		N	N					NRPA4360	0	NONE											
NRPD4368		N	N					NRPA4360	8	NONE											
NRPD5301		Y	N					NRPA5300	1	NONE											
NRPD5302		N	N					NRPA5300	2	NONE											
NRPD5307		N	N					NRPA5300	7	NONE											
NRPD530C		N	N					NRPA5300	12	NONE											
NRPD5340	V	N	N				LRPD5340	NRPA5340	0	NONE											
NRPD5348	V	N	N				LRPD5348	NRPA5340	8	NONE											
NRPD8101		N	N					NRPA8100	0	NONE											
NRPD8102		N	N					NRPA8100	8	NONE											
NRPDH010		N	N					NRPAH014	24	NONE											
NRPDH011		N	N					NRPAH011	0	NONE											
NRPDH012		N	Y	1	0	16383		NRPAH011	2	NONE											
NRPDH013	s	N	N					NRPAH013	0	NONE											
NRPDH014		N	N					NRPAH013	32	NONE											
NRPDH015		N	N					NRPAH014	0	NONE											
NRPDH016		N	N					NRPAH014	3	NONE											
NRPDH017		N	N					NRPAH014	4	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	IS_COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPDH018		N	N					NRPAH014	8	NONE											
NRPDH019		N	N					NRPAH014	16	NONE											
NRPDH040		N	N					NRPAH044	24	NONE											
NRPDH041		N	N					NRPAH041	0	NONE											
NRPDH042		N	Y	1	0	16383		NRPAH041	2	NONE											
NRPDH043	s	N	N					NRPAH043	0	NONE											
NRPDH044		N	N					NRPAH043	32	NONE											
NRPDH045		N	N					NRPAH044	0	NONE											
NRPDH046		N	N					NRPAH044	3	NONE											
NRPDH047		N	N					NRPAH044	4	NONE											
NRPDH048		N	N					NRPAH044	8	NONE											
NRPDH049		N	N					NRPAH044	16	NONE											
NRPDH070		N	N					NRPAH074	24	NONE											
NRPDH071		N	N					NRPAH071	0	NONE											
NRPDH072		N	Y	1	0	16383		NRPAH071	2	NONE											
NRPDH073	s	N	N					NRPAH073	0	NONE											
NRPDH074		N	N					NRPAH073	32	NONE											
NRPDH075		N	N					NRPAH074	0	NONE											
NRPDH076		N	N					NRPAH074	3	NONE											
NRPDH077		N	N					NRPAH074	4	NONE											
NRPDH078		N	N					NRPAH074	8	NONE											
NRPDH079		N	N					NRPAH074	16	NONE											
NRPDH090		N	N					NRPAH094	24	NONE											
NRPDH091		N	N					NRPAH091	0	NONE											
NRPDH092		N	Y	1	0	16383		NRPAH091	2	NONE											
NRPDH093	s	N	N					NRPAH093	0	NONE											
NRPDH094		N	N					NRPAH093	32	NONE											
NRPDH095		N	N					NRPAH094	0	NONE											
NRPDH096		N	N					NRPAH094	3	NONE											
NRPDH097		N	N					NRPAH094	4	NONE											
NRPDH098		N	N					NRPAH094	8	NONE											
NRPDH099		N	N					NRPAH094	16	NONE											
NRPDH110		N	N					NRPAH114	24	NONE											
NRPDH111		N	N					NRPAH111	0	NONE											
NRPDH112		N	Y	1	0	16383		NRPAH111	2	NONE											
NRPDH113	s	N	N					NRPAH113	0	NONE											
NRPDH114		N	N					NRPAH113	32	NONE											
NRPDH115		N	N					NRPAH114	0	NONE											
NRPDH116		N	N					NRPAH114	3	NONE											
NRPDH117		N	N					NRPAH114	4	NONE											
NRPDH118		N	N					NRPAH114	8	NONE											
NRPDH119		N	N					NRPAH114	16	NONE											
NRPDH140		N	N					NRPAH144	24	NONE											
NRPDH141		N	N					NRPAH141	0	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPDH142		N	Y	1	0	16383		NRPAH141	2	NONE											
NRPDH143	s	N	N					NRPAH143	0	NONE											
NRPDH144		N	N					NRPAH143	32	NONE											
NRPDH145		N	N					NRPAH144	0	NONE											
NRPDH146		N	N					NRPAH144	3	NONE											
NRPDH147		N	N					NRPAH144	4	NONE											
NRPDH148		N	N					NRPAH144	8	NONE											
NRPDH149		N	N					NRPAH144	16	NONE											
NRPDH170		N	N					NRPAH174	24	NONE											
NRPDH171		N	N					NRPAH171	0	NONE											
NRPDH172		N	Y	1	0	16383		NRPAH171	2	NONE											
NRPDH173	s	N	N					NRPAH173	0	NONE											
NRPDH174		N	N					NRPAH173	32	NONE											
NRPDH175		N	N					NRPAH174	0	NONE											
NRPDH176		N	N					NRPAH174	3	NONE											
NRPDH177		N	N					NRPAH174	4	NONE											
NRPDH178		N	N					NRPAH174	8	NONE											
NRPDH179		N	N					NRPAH174	16	NONE											
NRPDH190		N	N					NRPAH194	24	NONE											
NRPDH191		N	N					NRPAH191	0	NONE											
NRPDH192		N	Y	1	0	16383		NRPAH191	2	NONE											
NRPDH193	s	N	N					NRPAH193	0	NONE											
NRPDH194		N	N					NRPAH193	32	NONE											
NRPDH195		N	N					NRPAH194	0	NONE											
NRPDH196		N	N					NRPAH194	3	NONE											
NRPDH197		N	N					NRPAH194	4	NONE											
NRPDH198		N	N					NRPAH194	8	NONE											
NRPDH199		N	N					NRPAH194	16	NONE											
NRPDH1C0		N	N					NRPAH1C4	24	NONE											
NRPDH1C1		N	N					NRPAH1C1	0	NONE											
NRPDH1C2		N	Y	1	0	16383		NRPAH1C1	2	NONE											
NRPDH1C3	s	N	N					NRPAH1C3	0	NONE											
NRPDH1C4		N	N					NRPAH1C3	32	NONE											
NRPDH1C5		N	N					NRPAH1C4	0	NONE											
NRPDH1C6		N	N					NRPAH1C4	3	NONE											
NRPDH1C7		N	N					NRPAH1C4	4	NONE											
NRPDH1C8		N	N					NRPAH1C4	8	NONE											
NRPDH1C9		N	N					NRPAH1C4	16	NONE											
NRPDH210		N	N					NRPAH214	24	NONE											
NRPDH211		N	N					NRPAH211	0	NONE											
NRPDH212		N	Y	1	0	16383		NRPAH211	2	NONE											
NRPDH213	s	N	N					NRPAH213	0	NONE											
NRPDH214		N	N					NRPAH213	32	NONE											
NRPDH215		N	N					NRPAH214	0	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPDH216		N	N					NRPAH214	3	NONE											
NRPDH217		N	N					NRPAH214	4	NONE											
NRPDH218		N	N					NRPAH214	8	NONE											
NRPDH219		N	N					NRPAH214	16	NONE											
NRPDH240		N	N					NRPAH244	24	NONE											
NRPDH241		N	N					NRPAH241	0	NONE											
NRPDH242		N	Y	1	0	16383		NRPAH241	2	NONE											
NRPDH243	s	N	N					NRPAH243	0	NONE											
NRPDH244		N	N					NRPAH243	32	NONE											
NRPDH245		N	N					NRPAH244	0	NONE											
NRPDH246		N	N					NRPAH244	3	NONE											
NRPDH247		N	N					NRPAH244	4	NONE											
NRPDH248		N	N					NRPAH244	8	NONE											
NRPDH249		N	N					NRPAH244	16	NONE											
NRPDH270		N	N					NRPAH274	24	NONE											
NRPDH271		N	N					NRPAH271	0	NONE											
NRPDH272		N	Y	1	0	16383		NRPAH271	2	NONE											
NRPDH273	s	N	N					NRPAH273	0	NONE											
NRPDH274		N	N					NRPAH273	32	NONE											
NRPDH275		N	N					NRPAH274	0	NONE											
NRPDH276		N	N					NRPAH274	3	NONE											
NRPDH277		N	N					NRPAH274	4	NONE											
NRPDH278		N	N					NRPAH274	8	NONE											
NRPDH279		N	N					NRPAH274	16	NONE											
NRPDH290		N	N					NRPAH294	24	NONE											
NRPDH291		N	N					NRPAH291	0	NONE											
NRPDH292		N	Y	1	0	16383		NRPAH291	2	NONE											
NRPDH293	s	N	N					NRPAH293	0	NONE											
NRPDH294		N	N					NRPAH293	32	NONE											
NRPDH295		N	N					NRPAH294	0	NONE											
NRPDH296		N	N					NRPAH294	3	NONE											
NRPDH297		N	N					NRPAH294	4	NONE											
NRPDH298		N	N					NRPAH294	8	NONE											
NRPDH299		N	N					NRPAH294	16	NONE											
NRPDH2C0		N	N					NRPAH2C4	24	NONE											
NRPDH2C1		N	N					NRPAH2C1	0	NONE											
NRPDH2C2		N	Y	1	0	16383		NRPAH2C1	2	NONE											
NRPDH2C3	s	N	N					NRPAH2C3	0	NONE											
NRPDH2C4		N	N					NRPAH2C3	32	NONE											
NRPDH2C5		N	N					NRPAH2C4	0	NONE											
NRPDH2C6		N	N					NRPAH2C4	3	NONE											
NRPDH2C7		N	N					NRPAH2C4	4	NONE											
NRPDH2C8		N	N					NRPAH2C4	8	NONE											
NRPDH2C9		N	N					NRPAH2C4	16	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPDH310		N	N					NRPAH314	24	NONE											
NRPDH311		N	N					NRPAH311	0	NONE											
NRPDH312		N	Y	1	0	16383		NRPAH311	2	NONE											
NRPDH313	s	N	N					NRPAH313	0	NONE											
NRPDH314		N	N					NRPAH313	32	NONE											
NRPDH315		N	N					NRPAH314	0	NONE											
NRPDH316		N	N					NRPAH314	3	NONE											
NRPDH317		N	N					NRPAH314	4	NONE											
NRPDH318		N	N					NRPAH314	8	NONE											
NRPDH319		N	N					NRPAH314	16	NONE											
NRPDH340		N	N					NRPAH344	24	NONE											
NRPDH341		N	N					NRPAH341	0	NONE											
NRPDH342		N	Y	1	0	16383		NRPAH341	2	NONE											
NRPDH343	s	N	N					NRPAH343	0	NONE											
NRPDH344		N	N					NRPAH343	32	NONE											
NRPDH345		N	N					NRPAH344	0	NONE											
NRPDH346		N	N					NRPAH344	3	NONE											
NRPDH347		N	N					NRPAH344	4	NONE											
NRPDH348		N	N					NRPAH344	8	NONE											
NRPDH349		N	N					NRPAH344	16	NONE											
NRPDH370		N	N					NRPAH374	24	NONE											
NRPDH371		N	N					NRPAH371	0	NONE											
NRPDH372		N	Y	1	0	16383		NRPAH371	2	NONE											
NRPDH373	s	N	N					NRPAH373	0	NONE											
NRPDH374		N	N					NRPAH373	32	NONE											
NRPDH375		N	N					NRPAH374	0	NONE											
NRPDH376		N	N					NRPAH374	3	NONE											
NRPDH377		N	N					NRPAH374	4	NONE											
NRPDH378		N	N					NRPAH374	8	NONE											
NRPDH379		N	N					NRPAH374	16	NONE											
NRPDH390		N	N					NRPAH394	24	NONE											
NRPDH391		N	N					NRPAH391	0	NONE											
NRPDH392		N	Y	1	0	16383		NRPAH391	2	NONE											
NRPDH393	s	N	N					NRPAH393	0	NONE											
NRPDH394		N	N					NRPAH393	32	NONE											
NRPDH395		N	N					NRPAH394	0	NONE											
NRPDH396		N	N					NRPAH394	3	NONE											
NRPDH397		N	N					NRPAH394	4	NONE											
NRPDH398		N	N					NRPAH394	8	NONE											
NRPDH399		N	N					NRPAH394	16	NONE											
NRPDH3C0		N	N					NRPAH3C4	24	NONE											
NRPDH3C1		N	N					NRPAH3C1	0	NONE											
NRPDH3C2		N	Y	1	0	16383		NRPAH3C1	2	NONE											
NRPDH3C3	s	N	N					NRPAH3C3	0	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPDH3C4		N	N					NRPAH3C3	32	NONE											
NRPDH3C5		N	N					NRPAH3C4	0	NONE											
NRPDH3C6		N	N					NRPAH3C4	3	NONE											
NRPDH3C7		N	N					NRPAH3C4	4	NONE											
NRPDH3C8		N	N					NRPAH3C4	8	NONE											
NRPDH3C9		N	N					NRPAH3C4	16	NONE											
NRPDH410		N	N					NRPAH414	24	NONE											
NRPDH411		N	N					NRPAH411	0	NONE											
NRPDH412		N	Y	1	0	16383		NRPAH411	2	NONE											
NRPDH413	s	N	N					NRPAH413	0	NONE											
NRPDH414		N	N					NRPAH413	32	NONE											
NRPDH415		N	N					NRPAH414	0	NONE											
NRPDH416		N	N					NRPAH414	3	NONE											
NRPDH417		N	N					NRPAH414	4	NONE											
NRPDH418		N	N					NRPAH414	8	NONE											
NRPDH419		N	N					NRPAH414	16	NONE											
NRPDH440		N	N					NRPAH444	24	NONE											
NRPDH441		N	N					NRPAH441	0	NONE											
NRPDH442		N	Y	1	0	16383		NRPAH441	2	NONE											
NRPDH443	s	N	N					NRPAH443	0	NONE											
NRPDH444		N	N					NRPAH443	32	NONE											
NRPDH445		N	N					NRPAH444	0	NONE											
NRPDH446		N	N					NRPAH444	3	NONE											
NRPDH447		N	N					NRPAH444	4	NONE											
NRPDH448		N	N					NRPAH444	8	NONE											
NRPDH449		N	N					NRPAH444	16	NONE											
NRPDH4C0		N	N					NRPAH4C4	24	NONE											
NRPDH4C1		N	N					NRPAH4C1	0	NONE											
NRPDH4C2		N	Y	1	0	16383		NRPAH4C1	2	NONE											
NRPDH4C3	s	N	N					NRPAH4C3	0	NONE											
NRPDH4C4		N	N					NRPAH4C3	32	NONE											
NRPDH4C5		N	N					NRPAH4C4	0	NONE											
NRPDH4C6		N	N					NRPAH4C4	3	NONE											
NRPDH4C7		N	N					NRPAH4C4	4	NONE											
NRPDH4C8		N	N					NRPAH4C4	8	NONE											
NRPDH4C9		N	N					NRPAH4C4	16	NONE											
NRPDH510		N	N					NRPAH514	24	NONE											
NRPDH511		N	N					NRPAH511	0	NONE											
NRPDH512		N	Y	1	0	16383		NRPAH511	2	NONE											
NRPDH513	s	N	N					NRPAH513	0	NONE											
NRPDH514		N	N					NRPAH513	32	NONE											
NRPDH515		N	N					NRPAH514	0	NONE											
NRPDH516		N	N					NRPAH514	3	NONE											
NRPDH517		N	N					NRPAH514	4	NONE											

NAME	ENGLABEL	IS_COCO	IS_COUNTER	COUNT_STEP	COUNT_LOW	COUNT_HIGH	LIMS_NAME	TMDP_TMGP_NAME	START_BIT	ON_BOARD_SW	OB_MEAS_TYPE	BCOU_NAME	CHAD_1N	PROTOCOL	BCOU_NAME_RED	CHAD_1N_RED	PROTOCOL_RED	ACQ_FREQUENCY	ACQ_PHASE	TIME_OFFSET	TIME_INTERVAL
NRPDH518		N	N					NRPAH514	8	NONE											
NRPDH519		N	N					NRPAH514	16	NONE											
NRPDH540		N	N					NRPAH544	24	NONE											
NRPDH541		N	N					NRPAH541	0	NONE											
NRPDH542		N	Y	1	0	16383		NRPAH541	2	NONE											
NRPDH543	s	N	N					NRPAH543	0	NONE											
NRPDH544		N	N					NRPAH543	32	NONE											
NRPDH545		N	N					NRPAH544	0	NONE											
NRPDH546		N	N					NRPAH544	3	NONE											
NRPDH547		N	N					NRPAH544	4	NONE											
NRPDH548		N	N					NRPAH544	8	NONE											
NRPDH549		N	N					NRPAH544	16	NONE											
NRPDH5C0		N	N					NRPAH5C4	24	NONE											
NRPDH5C1		N	N					NRPAH5C1	0	NONE											
NRPDH5C2		N	Y	1	0	16383		NRPAH5C1	2	NONE											
NRPDH5C3	s	N	N					NRPAH5C3	0	NONE											
NRPDH5C4		N	N					NRPAH5C3	32	NONE											
NRPDH5C5		N	N					NRPAH5C4	0	NONE											
NRPDH5C6		N	N					NRPAH5C4	3	NONE											
NRPDH5C7		N	N					NRPAH5C4	4	NONE											
NRPDH5C8		N	N					NRPAH5C4	8	NONE											
NRPDH5C9		N	N					NRPAH5C4	16	NONE											
NRPDST01		N	N					NRPAST01	5	NONE											
NRPDST02		N	N					NRPAST01	12	NONE											
NRPDST03		N	N					NRPAST02	2	NONE											
NRPDST04		N	N					NRPAST02	5	NONE											
NRPDST05		N	N					NRPAST04	0	NONE											
NRPDST06		N	N					NRPAST04	8	NONE											
NRPDST10		N	N					NRPAST20	0	NONE											
NRPDST11		N	N					NRPAST20	8	NONE											

6.3 RPC Limits

6.3.1 LIMITS

NAME	TMTC	GCPASS	LNAME	TC_VAL_TYPE
LRP00001	TM	N	PAY429-Rpc Ies Temp Limits	NULL
LRP00002	TM	N	PAY430-Rpc Ica Temp Limits	NULL
LRP00003	TM	N	PAY431-Rpc Mip Temp Limits	NULL
LRPA5320	TM	N	Temp. 1	NULL
LRPA5330	TM	N	Temp. 2	NULL
LRPD0310	TM	N	+5V Limits	NULL
LRPD0317	TM	N	-5V Limits	NULL
LRPD0320	TM	N	+12V Limits	NULL
LRPD0327	TM	N	-12V Limits	NULL
LRPD0330	TM	N	+28V Limits	NULL
LRPD0365	TM	N	Priority FIFO Level	NULL
LRPD0372	TM	N	Normal FIFO Level	NULL
LRPD1104	TM	N	Error Bit Set	NULL
LRPD131A	TM	N	Safe Arm Connector	NULL
LRPD2360	TM	N	Sensor temperature	NULL
LRPD2368	TM	N	DPU Temperature	NULL
LRPD3312	TM	N	Liveliness Test	NULL
LRPD3350	TM	N	Overheat Test	NULL
LRPD5340	TM	N	+5V Supply	NULL
LRPD5348	TM	N	-5V Supply	NULL

6.3.2 C_LIMITSET

NAME	TMTC	GCPASS	LNAME	TC_VAL_TYPE
LRP00001	TM	N	PAY429-Rpc Ies Temp Limits	NULL
LRP00002	TM	N	PAY430-Rpc Ica Temp Limits	NULL
LRP00003	TM	N	PAY431-Rpc Mip Temp Limits	NULL
LRPA5320	TM	N	Temp. 1	NULL
LRPA5330	TM	N	Temp. 2	NULL
LRPD0310	TM	N	+5V Limits	NULL
LRPD0317	TM	N	-5V Limits	NULL
LRPD0320	TM	N	+12V Limits	NULL
LRPD0327	TM	N	-12V Limits	NULL
LRPD0330	TM	N	+28V Limits	NULL
LRPD0365	TM	N	Priority FIFO Level	NULL
LRPD0372	TM	N	Normal FIFO Level	NULL
LRPD1104	TM	N	Error Bit Set	NULL
LRPD131A	TM	N	Safe Arm Connector	NULL
LRPD2360	TM	N	Sensor temperature	NULL
LRPD2368	TM	N	DPU Temperature	NULL
LRPD3312	TM	N	Liveliness Test	NULL
LRPD3350	TM	N	Overheat Test	NULL
LRPD5340	TM	N	+5V Supply	NULL
LRPD5348	TM	N	-5V Supply	NULL

6.3.3 C_LIMITSET_ELT

LIMS_NAME	LIMS_TMTC	RANK	CONDITION	DATA_TYPE	SOFT_LOW	SOFT_HIGH	SOFT_DELTA	SOFT_NUMOUT	HARD_LOW	HARD_HIGH	HARD_NUMOUT	VAL_TYPE
LRP00001	TM	16	TRUE	CAL	-15	50		3	-20	60	3	INT
LRP00001	TM	1	TRUE	CAL	-25	55		3	-30	60	3	INT
LRP00002	TM	1	TRUE	CAL	-35	55		3	-40	60	3	INT
LRP00002	TM	16	TRUE	CAL	-25	55		3	-30	65	3	INT
LRP00003	TM	1	TRUE	CAL	-55	90		3	-55	90	3	INT
LRP00003	TM	16	TRUE	CAL	-55	90		3	-55	90	3	INT
LRPA5320	TM	1	NRPD0305:SPV="ON"	CAL	-41	74		2	-46	90	1	REAL
LRPA5330	TM	1	NRPD0305:SPV="ON"	CAL	-41	74		2	-46	90	1	REAL
LRPD0310	TM	1	NRPA0350:RV>0	CAL	4	5	0.05	1	4	5	1	REAL
LRPD0317	TM	1	NRPA0350:RV>0	CAL	-5	-4	0.05	1	-5	-4	1	REAL
LRPD0320	TM	1	NRPA0350:RV>0	CAL	11	13	0.05	1	10	15	1	REAL
LRPD0327	TM	1	NRPA0350:RV>0	CAL	-13	-11	0.05	1	-15	-10	1	REAL
LRPD0330	TM	1	NRPA0350:RV>0	CAL	25	31	0.05	1	22	34	1	REAL
LRPD0365	TM	1	NRPA0350:RV>0	RAW	0	1800		1	0	2000	1	INT
LRPD0372	TM	1	NRPA0350:RV>0	RAW	0	12000		1	0	15000	1	INT
LRPD1104	TM	1	NRPD0300:SPV="ON"	RAW					1	1	1	INT
LRPD131A	TM	1	NRPD0300:SPV="ON"	RAW					2	2	1	INT
LRPD2360	TM	1	NRPD0301:SPV="ON"	CAL	-30	35		3	-35	40	3	INT
LRPD2368	TM	1	NRPD0301:SPV="ON"	CAL	-30	35		3	-35	40	3	INT
LRPD3312	TM	1	NRPD0303:RV=1	RAW					0	0	2	INT
LRPD3350	TM	1	NRPD0303:RV=1	CAL	-300	80		1	-300	110	1	INT
LRPD5340	TM	1	NRPD0305:SPV="ON"	CAL	4	5		1	4	6	1	REAL
LRPD5348	TM	1	NRPD0305:SPV="ON"	CAL	-4	-5		1	-4	-6	1	REAL

6.4 RPC Calibration Parameters

6.4.1 P_CALVAR

CALC_NAME	MODL_MODEL	GCPASS	LNAME	COEFF0	COEFF1	DEFAULT_TEXT	CALC_CALTYPE
CRPP0001	DEFAULT	N	Calib V to 0C YSI-44907 Therm				CPOI
CRPP0500	DEFAULT	N	PSU Temperature				CPOI
CRPP0500	MPFRPC00	N	PSU Temperature				CPOI
CRPP0500	MEMRPC000002	N	PSU Temperature				CPOI
CRPP0501	DEFAULT	N	A/D +5V Level				CPOI
CRPP0501	MPFRPC00	N	A/D +5V Level				CPOI
CRPP0501	MEMRPC000002	N	A/D +5V Level				CPOI
CRPP0502	MPFRPC00	N	A/D -5V Level				CPOI
CRPP0502	DEFAULT	N	A/D -5V Level				CPOI
CRPP0502	MEMRPC000002	N	A/D -5V Level				CPOI
CRPP0503	DEFAULT	N	A/D +12V Level				CPOI
CRPP0503	MEMRPC000002	N	A/D +12V Level				CPOI
CRPP0503	MPFRPC00	N	A/D +12V Level				CPOI
CRPP0504	MEMRPC000002	N	A/D -12V Level				CPOI
CRPP0504	MPFRPC00	N	A/D -12V Level				CPOI
CRPP0504	DEFAULT	N	A/D -12V Level				CPOI
CRPP0505	MEMRPC000002	N	A/D +28V Level				CPOI
CRPP0505	DEFAULT	N	A/D +28V Level				CPOI
CRPP0505	MPFRPC00	N	A/D +28V Level				CPOI
CRPP150A	MPFRPC00	N	ELC MCP Voltage				CPOI
CRPP150A	DEFAULT	N	ELC MCP Voltage				CPOI
CRPP150C	DEFAULT	N	ION MCP Voltage				CPOI
CRPP150C	MPFRPC00	N	ION MCP Voltage				CPOI
CRPP150E	DEFAULT	N	HVMON Voltage				CPOI
CRPP150E	MPFRPC00	N	HVMON Voltage				CPOI
CRPP151A	MPFRPC00	N	Negative 5V Voltage				CPOI
CRPP151A	DEFAULT	N	Negative 5V Voltage				CPOI
CRPP151B	MPFRPC00	N	Positive 5V Voltage				CPOI
CRPP151B	DEFAULT	N	Positive 5V Voltage				CPOI
CRPP151C	DEFAULT	N	Negative 12V Voltage				CPOI
CRPP151C	MPFRPC00	N	Negative 12V Voltage				CPOI
CRPP151D	DEFAULT	N	Positive 12V Voltage				CPOI
CRPP151D	MPFRPC00	N	Positive 12V Voltage				CPOI
CRPP2001	MEMRPC000002	N	Mcp 28V switch				CPOI
CRPP2001	DEFAULT	N	Mcp 28V switch				CPOI
CRPP2001	MPFRPC00	N	Mcp 28V switch				CPOI
CRPP2002	MPFRPC00	N	Opto 28V switch				CPOI
CRPP2002	MEMRPC000002	N	Opto 28V switch				CPOI
CRPP2002	DEFAULT	N	Opto 28V switch				CPOI
CRPP2003	MEMRPC000002	N	Main 28V switch				CPOI
CRPP2003	DEFAULT	N	Main 28V switch				CPOI
CRPP2003	MPFRPC00	N	Main 28V switch				CPOI
CRPP2004	MEMRPC000002	N	Pacc Hv switch				CPOI
CRPP2004	DEFAULT	N	Pacc Hv switch				CPOI
CRPP2004	MPFRPC00	N	Pacc Hv switch				CPOI
CRPP2005	MEMRPC000002	N	Grid LV switch				CPOI
CRPP2005	DEFAULT	N	Grid LV switch				CPOI
CRPP2005	MPFRPC00	N	Grid LV switch				CPOI
CRPP2006	MPFRPC00	N	Entr HV switch				CPOI
CRPP2006	DEFAULT	N	Entr HV switch				CPOI
CRPP2006	MEMRPC000002	N	Entr HV switch				CPOI
CRPP2007	MEMRPC000002	N	Defl LV switch				CPOI
CRPP2007	MPFRPC00	N	Defl LV switch				CPOI
CRPP2007	DEFAULT	N	Defl LV switch				CPOI
CRPP2008	DEFAULT	N	Defl HV switch				CPOI
CRPP2008	MPFRPC00	N	Defl HV switch				CPOI
CRPP2008	MEMRPC000002	N	Defl HV switch				CPOI
CRPP2009	DEFAULT	N	Direct cmd sw.				CPOI
CRPP2009	MPFRPC00	N	Direct cmd sw.				CPOI
CRPP2009	MEMRPC000002	N	Direct cmd sw.				CPOI
CRPP2010	DEFAULT	N	WD enabel sw.				CPOI
CRPP2010	MPFRPC00	N	WD enabel sw.				CPOI
CRPP2010	MEMRPC000002	N	WD enabel sw.				CPOI
CRPP2011	MPFRPC00	N	GAS enable/disable				CPOI
CRPP2011	DEFAULT	N	GAS enable/disable				CPOI
CRPP2012	MPFRPC00	N	Thruster enable/disabl				CPOI
CRPP2012	DEFAULT	N	Thruster enable/disabl				CPOI
CRPP2014	MPFRPC00	N	Compr. switch				CPOI
CRPP2014	DEFAULT	N	Compr. switch				CPOI

CALC_NAME	MODL_MODEL	GCPASS	LNAME	COEFF0	COEFF1	DEFAULT TEXT	CALC_CALTYPE
CRPP2014	MEMRPC000002	N	Compr. switch				CPOI
CRPP2015	MEMRPC000002	N	Alt.Pacc switch				CPOI
CRPP2015	DEFAULT	N	Alt.Pacc switch				CPOI
CRPP2015	MPFRPC00	N	Alt.Pacc switch				CPOI
CRPP2016	MPFRPC00	N	Pacc. level				CPOI
CRPP2016	DEFAULT	N	Pacc. level				CPOI
CRPP2016	MEMRPC000002	N	Pacc. level				CPOI
CRPP2017	MEMRPC000002	N	Auto red. sw.				CPOI
CRPP2017	DEFAULT	N	Auto red. sw.				CPOI
CRPP2017	MPFRPC00	N	Auto red. sw.				CPOI
CRPP2111	MPFRPC00	N	Boot EEP incl. Context				CPOI
CRPP2111	MEMRPC000002	N	Boot EEP incl. Context				CPOI
CRPP2111	DEFAULT	N	Boot EEP incl. Context				CPOI
CRPP2112	DEFAULT	N	Test pattern				CPOI
CRPP2112	MPFRPC00	N	Test pattern				CPOI
CRPP2112	MEMRPC000002	N	Test pattern				CPOI
CRPP2113	MPFRPC00	N	Boot EEP excl. Context				CPOI
CRPP2113	MEMRPC000002	N	Boot EEP excl. Context				CPOI
CRPP2113	DEFAULT	N	Boot EEP excl. Context				CPOI
CRPP2114	MPFRPC00	N	RPC Internal SID nr				CPOI
CRPP2114	DEFAULT	N	RPC Internal SID nr				CPOI
CRPP2114	MEMRPC000002	N	RPC Internal SID nr				CPOI
CRPP2115	MPFRPC00	N	Default boot section				CPOI
CRPP2115	DEFAULT	N	Default boot section				CPOI
CRPP2201	DEFAULT	N	Deflection level				CPOI
CRPP2201	MEMRPC000002	N	Deflection level				CPOI
CRPP2201	MPFRPC00	N	Deflection level				CPOI
CRPP2202	DEFAULT	N	Entrance level				CPOI
CRPP2202	MPFRPC00	N	Entrance level				CPOI
CRPP2202	MEMRPC000002	N	Entrance level				CPOI
CRPP2203	MEMRPC000002	N	SW start level				CPOI
CRPP2203	DEFAULT	N	SW start level				CPOI
CRPP2203	MPFRPC00	N	SW start level				CPOI
CRPP2204	MEMRPC000002	N	Spare level				CPOI
CRPP2204	MPFRPC00	N	GAS pressure low				CPOI
CRPP2204	DEFAULT	N	GAS pressure low				CPOI
CRPP2205	DEFAULT	N	GAS pressure high				CPOI
CRPP2205	MPFRPC00	N	GAS pressure high				CPOI
CRPP2210	DEFAULT	N	Mode cmd				CPOI
CRPP2210	MPFRPC00	N	Mode cmd				CPOI
CRPP2210	MEMRPC000002	N	Mode cmd				CPOI
CRPP2212	MEMRPC000002	N	Reprog. all EEP sections				CPOI
CRPP2212	DEFAULT	N	Reprog. all EEP sections				CPOI
CRPP2212	MPFRPC00	N	Reprog. all EEP sections				CPOI
CRPP2213	DEFAULT	N	Reprog. EEP section				CPOI
CRPP2213	MEMRPC000002	N	Reprog. EEP section				CPOI
CRPP2301	MEMRPC000002	N	Opto reference				CPOI
CRPP2301	DEFAULT	N	Opto reference				CPOI
CRPP2301	MPFRPC00	N	Opto reference				CPOI
CRPP2302	MEMRPC000002	N	Mcp reference				CPOI
CRPP2302	DEFAULT	N	Mcp reference				CPOI
CRPP2302	MPFRPC00	N	Mcp reference				CPOI
CRPP2303	MPFRPC00	N	Grid reference				CPOI
CRPP2303	DEFAULT	N	Grid reference				CPOI
CRPP2303	MEMRPC000002	N	Grid reference				CPOI
CRPP2304	DEFAULT	N	Pacc low ref.				CPOI
CRPP2304	MPFRPC00	N	Pacc low ref.				CPOI
CRPP2304	MEMRPC000002	N	Pacc low ref.				CPOI
CRPP2305	MPFRPC00	N	Pacc high ref.				CPOI
CRPP2305	MEMRPC000002	N	Pacc high ref.				CPOI
CRPP2305	DEFAULT	N	Pacc high ref.				CPOI
CRPP2306	MPFRPC00	N	Deflection LV ref.				CPOI
CRPP2306	MEMRPC000002	N	Deflection LV ref.				CPOI
CRPP2306	DEFAULT	N	Deflection LV ref.				CPOI
CRPP2307	MEMRPC000002	N	Deflection HV ref.				CPOI
CRPP2307	MPFRPC00	N	Deflection HV ref.				CPOI
CRPP2307	DEFAULT	N	Deflection HV ref.				CPOI
CRPP2308	MPFRPC00	N	Entrance ref.				CPOI
CRPP2308	DEFAULT	N	Entrance ref.				CPOI
CRPP2308	MEMRPC000002	N	Entrance ref.				CPOI
CRPP2309	DEFAULT	N	Noise reduction				CPOI
CRPP2309	MPFRPC00	N	Noise reduction				CPOI
CRPP2309	MEMRPC000002	N	Noise reduction				CPOI
CRPP2310	MEMRPC000002	N	Fifo low mark				CPOI
CRPP2310	DEFAULT	N	Fifo low mark				CPOI
CRPP2310	MPFRPC00	N	Fifo low mark				CPOI
CRPP2311	MEMRPC000002	N	Fifo high mark				CPOI
CRPP2311	DEFAULT	N	Fifo high mark				CPOI
CRPP2311	MPFRPC00	N	Fifo high mark				CPOI

CALC_NAME	MODL_MODEL	GCPASS	LNAME	COEFF0	COEFF1	DEFAULTTEXT	CALC_CALTYPE
CRPP2312	MEMRPC000002	N	Fifo force mark				CPOI
CRPP2312	MPFRPC00	N	Fifo force mark				CPOI
CRPP2312	DEFAULT	N	Fifo force mark				CPOI
CRPP2313	MPFRPC00	N	Fifo clear mark				CPOI
CRPP2313	DEFAULT	N	Fifo clear mark				CPOI
CRPP2313	MEMRPC000002	N	Fifo clear mark				CPOI
CRPP2530	DEFAULT	N	Opto HV monitor				CPOI
CRPP2530	MPFRPC00	N	Opto HV monitor				CPOI
CRPP2538	DEFAULT	N	Mcp HV monitor				CPOI
CRPP2538	MPFRPC00	N	Mcp HV monitor				CPOI
CRPP2540	DEFAULT	N	Deflection HV monitor				CPOI
CRPP2540	MPFRPC00	N	Deflection HV monitor				CPOI
CRPP2548	MEMRPC000002	N	Opto HV monitor				CPOI
CRPP2548	DEFAULT	N	Deflection LV monitor				CPOI
CRPP2548	MPFRPC00	N	Deflection LV monitor				CPOI
CRPP2550	DEFAULT	N	Pacc. HV monitor				CPOI
CRPP2550	MPFRPC00	N	Pacc. HV monitor				CPOI
CRPP2554	DEFAULT	N	Mcp HV monitor				CPOI
CRPP2554	MEMRPC000002	N	Mcp HV monitor				CPOI
CRPP2558	MPFRPC00	N	Grid LV monitor				CPOI
CRPP2558	DEFAULT	N	Grid LV monitor				CPOI
CRPP2560	DEFAULT	N	Sensor temperature				CPOI
CRPP2560	MPFRPC00	N	Sensor temperature				CPOI
CRPP2560	MEMRPC000002	N	Upper entrance HV mon				CPOI
CRPP2568	DEFAULT	N	DPU temperature				CPOI
CRPP2568	MPFRPC00	N	DPU temperature				CPOI
CRPP256C	DEFAULT	N	Lower entrance HV mon				CPOI
CRPP256C	MEMRPC000002	N	Lower entrance HV mon				CPOI
CRPP2578	MEMRPC000002	N	Post acc HV monitor				CPOI
CRPP2578	DEFAULT	N	Post acc HV monitor				CPOI
CRPP2584	DEFAULT	N	Deflection HV monitor				CPOI
CRPP2584	MEMRPC000002	N	Deflection HV monitor				CPOI
CRPP2590	MEMRPC000002	N	Deflection LV monitor				CPOI
CRPP2590	DEFAULT	N	Deflection LV monitor				CPOI
CRPP259C	MEMRPC000002	N	Sensor temperature				CPOI
CRPP259C	DEFAULT	N	Sensor temperature				CPOI
CRPP25A7	DEFAULT	N	Upper entrance HV mon.				CPOI
CRPP25A7	MPFRPC00	N	Upper entrance HV mon.				CPOI
CRPP25A8	MEMRPC000002	N	Grid LV monitor				CPOI
CRPP25A8	DEFAULT	N	Grid LV monitor				CPOI
CRPP25B4	MEMRPC000002	N	DPU temperature				CPOI
CRPP25B4	DEFAULT	N	DPU temperature				CPOI
CRPP25B7	DEFAULT	N	Lower entrance HV mon				CPOI
CRPP25B7	MPFRPC00	N	Lower entrance HV mon				CPOI
CRPP3500	MPFRPC00	N	Processor Temp				CPOI
CRPP3500	MEMRPC000002	N	Processor Temp				CPOI
CRPP3500	DEFAULT	N	Processor Temp				CPOI
CRPP4500	DEFAULT	N	Temperature 2				CPOI
CRPP4500	MEMRPC000002	N	Temperature 2				CPOI
CRPP4500	MPFRPC00	N	Temperature 2				CPOI
CRPP5501	MEMRPC000002	N	MAG Temperature 1				CPOI
CRPP5501	MPFRPC00	N	MAG Temperature 1				CPOI
CRPP5501	DEFAULT	N	MAG Temperature 1				CPOI
CRPP5502	MPFRPC00	N	MAG Temperature 2				CPOI
CRPP5502	DEFAULT	N	MAG Temperature 2				CPOI
CRPP5502	MEMRPC000002	N	MAG Temperature 2				CPOI
CRPP5503	MPFRPC00	N	B Fld X Component				CPOI
CRPP5503	DEFAULT	N	B Fld X Component				CPOI
CRPP5503	MEMRPC000002	N	B Fld X Component				CPOI
CRPP5504	DEFAULT	N	B Fld Y Component				CPOI
CRPP5504	MPFRPC00	N	B Fld Y Component				CPOI
CRPP5504	MEMRPC000002	N	B Fld Y Component				CPOI
CRPP5505	MEMRPC000002	N	B Fld Z Component				CPOI
CRPP5505	MPFRPC00	N	B Fld Z Component				CPOI
CRPP5505	DEFAULT	N	B Fld Z Component				CPOI
CRPR0011	DEFAULT	N	Keyhole Address			Invalid	SINT
CRPR0011	MPFRPC00	N	Keyhole Address			Invalid	SINT
CRPR0011	MEMRPC000002	N	Keyhole Address			Invalid	SINT
CRPR0012	MPFRPC00	N	Time Delay			Invalid	SINT
CRPR0012	DEFAULT	N	Time Delay			Invalid	SINT
CRPR0012	MEMRPC000002	N	Time Delay			Invalid	SINT
CRPR0013	DEFAULT	N	Time Period			Invalid	SINT
CRPR0013	MPFRPC00	N	Time Period			Invalid	SINT
CRPR0013	MEMRPC000002	N	Time Period			Invalid	SINT
CRPR0014	MEMRPC000002	N	FIFO Threshold			Invalid	SINT
CRPR0014	MPFRPC00	N	FIFO Threshold			Invalid	SINT
CRPR0014	DEFAULT	N	FIFO Threshold			Invalid	SINT
CRPR0015	DEFAULT	N	Mode Select			Invalid	SINT
CRPR0015	MPFRPC00	N	Mode Select			Invalid	SINT

CALC_NAME	MODL_MODEL	GCPASS	LNAME	COEFF0	COEFF1	DEFAULT TEXT	CALC_CALTYPE
CRPR0015	MEMRPC000002	N	Mode Select			Invalid	SINT
CRPR0016	MPFRPC00	N	When in Acquisition Period			Invalid	SINT
CRPR0016	DEFAULT	N	When in Acquisition Period			Invalid	SINT
CRPR0016	MEMRPC000002	N	When in Acquisition Period			Invalid	SINT
CRPR0017	DEFAULT	N	Repetition Interval			Invalid	SINT
CRPR0017	MPFRPC00	N	Repetition Interval			Invalid	SINT
CRPR0017	MEMRPC000002	N	Repetition Interval			Invalid	SINT
CRPV0100	MPFRPC00	N	1 Bit On/Off			Invalid	SVAL
CRPV0100	DEFAULT	N	1 Bit On/Off			Invalid	SVAL
CRPV0100	MEMRPC000002	N	1 Bit On/Off			Invalid	SVAL
CRPV0101	DEFAULT	N	1 Bit True/False			Invalid	SVAL
CRPV0101	MPFRPC00	N	1 Bit True/False			Invalid	SVAL
CRPV0101	MEMRPC000002	N	1 Bit True/False			Invalid	SVAL
CRPV0102	MEMRPC000002	N	Connect / Disconnect			Invalid	SVAL
CRPV0102	DEFAULT	N	Connect / Disconnect			Invalid	SVAL
CRPV0102	MPFRPC00	N	Connect / Disconnect			Invalid	SVAL
CRPV0103	DEFAULT	N	1 Bit Enable / Disable			Invalid	SVAL
CRPV0103	MEMRPC000002	N	1 Bit Enable / Disable			Invalid	SVAL
CRPV0103	MPFRPC00	N	1 Bit Enable / Disable			Invalid	SVAL
CRPV0104	MEMRPC000002	N	1 Bit No Error / Error			Invalid	SVAL
CRPV0104	MPFRPC00	N	1 Bit No Error / Error			Invalid	SVAL
CRPV0104	DEFAULT	N	1 Bit No Error / Error			Invalid	SVAL
CRPV0105	MPFRPC00	N	CP Mon Act/Disact			Invalid	SVAL
CRPV0105	DEFAULT	N	CP Mon Act/Disact			Invalid	SVAL
CRPV0106	DEFAULT	N	MIP Dog Aslp/Actv			Invalid	SVAL
CRPV0106	MPFRPC00	N	MIP Dog Aslp/Actv			Invalid	SVAL
CRPV0110	MPFRPC00	N	1 Bit Main / Red			Invalid	SVAL
CRPV0110	DEFAULT	N	1 Bit Main / Red			Invalid	SVAL
CRPV0110	MEMRPC000002	N	1 Bit Main / Red			Invalid	SVAL
CRPV0111	MPFRPC00	N	1 Bit Norm / Maint			Invalid	SVAL
CRPV0111	MEMRPC000002	N	1 Bit Norm / Maint			Invalid	SVAL
CRPV0111	DEFAULT	N	1 Bit Norm / Maint			Invalid	SVAL
CRPV0112	DEFAULT	N	RAM Map Flag			Invalid	SVAL
CRPV0112	MPFRPC00	N	RAM Map Flag			Invalid	SVAL
CRPV0112	MEMRPC000002	N	RAM Map Flag			Invalid	SVAL
CRPV0113	DEFAULT	N	PROM On / Off			Invalid	SVAL
CRPV0113	MPFRPC00	N	PROM On / Off			Invalid	SVAL
CRPV0114	MPFRPC00	N	Monitor On /Off			Invalid	SVAL
CRPV0114	DEFAULT	N	Monitor On /Off			Invalid	SVAL
CRPV0200	MPFRPC00	N	System ID			Invalid	SVAL
CRPV0200	MEMRPC000002	N	System ID			Invalid	SVAL
CRPV0200	DEFAULT	N	System ID			Invalid	SVAL
CRPV1011	MEMRPC000002	N	CommRate			Invalid	SVAL
CRPV1011	DEFAULT	N	CommRate			Invalid	SVAL
CRPV1011	MPFRPC00	N	CommRate			Invalid	SVAL
CRPV1121	MEMRPC000002	N	DataType			Invalid	SVAL
CRPV1121	DEFAULT	N	DataType			Invalid	SVAL
CRPV1126	DEFAULT	N	EEPROM Write Flag			Invalid	SVAL
CRPV1126	MPFRPC00	N	EEPROM Write Flag			Invalid	SVAL
CRPV1126	MEMRPC000002	N	EEPROM Write Flag			Invalid	SVAL
CRPV1127	MPFRPC00	N	EEPROM Ready			Invalid	SVAL
CRPV1127	DEFAULT	N	EEPROM Ready			Invalid	SVAL
CRPV1127	MEMRPC000002	N	EEPROM Ready			Invalid	SVAL
CRPV120D	MPFRPC00	N	Safe Arm State			Invalid	SVAL
CRPV120D	MEMRPC000002	N	Safe Arm State			Invalid	SVAL
CRPV120D	DEFAULT	N	Safe Arm State			Invalid	SVAL
CRPV1227	DEFAULT	N	Clock Selection			Invalid	SVAL
CRPV1227	MPFRPC00	N	Clock Selection			Invalid	SVAL
CRPV1227	MEMRPC000002	N	Clock Selection			Invalid	SVAL
CRPV1301	DEFAULT	N	SetType 1			Invalid	SVAL
CRPV1301	MPFRPC00	N	SetType 1			Invalid	SVAL
CRPV1301	MEMRPC000002	N	SetType 1			Invalid	SVAL
CRPV1303	MEMRPC000002	N	Internal State			Invalid	SVAL
CRPV1303	MPFRPC00	N	Internal State			Invalid	SVAL
CRPV1303	DEFAULT	N	Internal State			Invalid	SVAL
CRPV1304	DEFAULT	N	Communications Mode			Invalid	SVAL
CRPV1304	MEMRPC000002	N	Communications Mode			Invalid	SVAL
CRPV1304	MPFRPC00	N	Communications Mode			Invalid	SVAL
CRPV1315	MPFRPC00	N	Counter State			Invalid	SVAL
CRPV1315	DEFAULT	N	Counter State			Invalid	SVAL
CRPV1315	MEMRPC000002	N	Counter State			Invalid	SVAL
CRPV131F	MPFRPC00	N	Unit ID			Invalid	SVAL
CRPV131F	MEMRPC000002	N	Unit ID			Invalid	SVAL
CRPV131F	DEFAULT	N	Unit ID			Invalid	SVAL
CRPV1321	DEFAULT	N	Set Type 2			Invalid	SVAL
CRPV1321	MPFRPC00	N	Set Type 2			Invalid	SVAL
CRPV1321	MEMRPC000002	N	Set Type 2			Invalid	SVAL
CRPV132A	MEMRPC000002	N	Checksum Status			Invalid	SVAL
CRPV132A	DEFAULT	N	Checksum Status			Invalid	SVAL

CALC_NAME	MODL_MODEL	GCPASS	LNAME	COEFF0	COEFF1	DEFAULT TEXT	CALC_CALTYPE
CRPV132D	DEFAULT	N	IES Last executed opcode			Invalid	SVAL
CRPV132D	MPFRPC00	N	IES Last executed opcode			Invalid	SVAL
CRPV132D	MEMRPC000002	N	IES Last executed opcode			Invalid	SVAL
CRPV132E	MPFRPC00	N	1 Bit INACTIVE/ACTIVE			Invalid	SVAL
CRPV132E	DEFAULT	N	1 Bit INACTIVE/ACTIVE			Invalid	SVAL
CRPV132E	MEMRPC000002	N	1 Bit INACTIVE/ACTIVE			Invalid	SVAL
CRPV132F	DEFAULT	N	Mux Control Flag			Invalid	SVAL
CRPV132F	MEMRPC000002	N	Mux Control Flag			Invalid	SVAL
CRPV1341	MEMRPC000002	N	SetType 3			Invalid	SVAL
CRPV1341	MPFRPC00	N	SetType 3			Invalid	SVAL
CRPV1341	DEFAULT	N	SetType 3			Invalid	SVAL
CRPV1361	DEFAULT	N	SetType 4			Invalid	SVAL
CRPV1361	MPFRPC00	N	SetType 4			Invalid	SVAL
CRPV1361	MEMRPC000002	N	SetType 4			Invalid	SVAL
CRPV1421	MEMRPC000002	N	Subsystem			Invalid	SVAL
CRPV1421	DEFAULT	N	Subsystem			Invalid	SVAL
CRPV1422	DEFAULT	N	DiagType			Invalid	SVAL
CRPV1422	MEMRPC000002	N	DiagType			Invalid	SVAL
CRPV1431	MEMRPC000002	N	IES Mode Cal			Invalid	SVAL
CRPV1431	MPFRPC00	N	IES Mode Cal			Invalid	SVAL
CRPV1431	DEFAULT	N	IES Mode Cal			Invalid	SVAL
CRPV1441	MEMRPC000002	N	MagicWord			Invalid	SVAL
CRPV1441	DEFAULT	N	MagicWord			Invalid	SVAL
CRPV1512	MPFRPC00	N	RAM Fill Type			Invalid	SVAL
CRPV1512	DEFAULT	N	RAM Fill Type			Invalid	SVAL
CRPV1514	DEFAULT	N	Mem Service Error Type			Invalid	SVAL
CRPV1514	MPFRPC00	N	Mem Service Error Type			Invalid	SVAL
CRPV1516	DEFAULT	N	Mem Service Info			Invalid	SVAL
CRPV1516	MPFRPC00	N	Mem Service Info			Invalid	SVAL
CRPV1538	DEFAULT	N	Sequence Error Code			Invalid	SVAL
CRPV1538	MPFRPC00	N	Sequence Error Code			Invalid	SVAL
CRPV1811	MEMRPC000002	N	MemArea			Invalid	SVAL
CRPV1811	DEFAULT	N	MemArea			Invalid	SVAL
CRPV2181	MEMRPC000002	N	Binary level			Invalid	SVAL
CRPV2181	DEFAULT	N	Binary level			Invalid	SVAL
CRPV2181	MPFRPC00	N	Binary level			Invalid	SVAL
CRPV2182	MEMRPC000002	N	Yes/No types			Invalid	SVAL
CRPV2182	DEFAULT	N	Yes/No types			Invalid	SVAL
CRPV2182	MPFRPC00	N	Yes/No types			Invalid	SVAL
CRPV2183	MEMRPC000002	N	HV type			Invalid	SVAL
CRPV2183	DEFAULT	N	HV type			Invalid	SVAL
CRPV2183	MPFRPC00	N	HV type			Invalid	SVAL
CRPV2184	MEMRPC000002	N	Pacc type			Invalid	SVAL
CRPV2184	DEFAULT	N	Pacc type			Invalid	SVAL
CRPV2185	MEMRPC000002	N	High Voltage			Invalid	SVAL
CRPV2185	MPFRPC00	N	High Voltage			Invalid	SVAL
CRPV2185	DEFAULT	N	High Voltage			Invalid	SVAL
CRPV2280	MPFRPC00	N	Cmd status			Invalid	SVAL
CRPV2280	MEMRPC000002	N	Cmd status			Invalid	SVAL
CRPV2280	DEFAULT	N	Cmd status			Invalid	SVAL
CRPV2380	MEMRPC000002	N	RPC Internal Sid type			Invalid	SVAL
CRPV2380	DEFAULT	N	RPC Internal Sid type			Invalid	SVAL
CRPV2380	MPFRPC00	N	RPC Internal Sid type			Invalid	SVAL
CRPV2381	DEFAULT	N	Mode			Invalid	SVAL
CRPV2381	MEMRPC000002	N	Mode			Invalid	SVAL
CRPV2381	MPFRPC00	N	Mode			Invalid	SVAL
CRPV3100	MPFRPC00	N	1 Bit Enabled/Disabled			Invalid	SVAL
CRPV3100	MEMRPC000002	N	1 Bit Enabled/Disabled			Invalid	SVAL
CRPV3100	DEFAULT	N	1 Bit Enabled/Disabled			Invalid	SVAL
CRPV3101	MEMRPC000002	N	1 Bit Alive/Dead			Invalid	SVAL
CRPV3101	DEFAULT	N	1 Bit Alive/Dead			Invalid	SVAL
CRPV3101	MPFRPC00	N	1 Bit Alive/Dead			Invalid	SVAL
CRPV3108	DEFAULT	N	LDL Syncronisation			Invalid	SVAL
CRPV3108	MEMRPC000002	N	LDL Syncronisation			Invalid	SVAL
CRPV3109	DEFAULT	N	LDL mixed/norm			Invalid	SVAL
CRPV3109	MEMRPC000002	N	LDL mixed/norm			Invalid	SVAL
CRPV3300	MPFRPC00	N	Executing Macro			Invalid	SVAL
CRPV3300	DEFAULT	N	Executing Macro			Invalid	SVAL
CRPV3303	DEFAULT	N	Programming Macro			Invalid	SVAL
CRPV3303	MPFRPC00	N	Programming Macro			Invalid	SVAL
CRPV3307	MPFRPC00	N	1 Bit Disabled/Enabled			Invalid	SVAL
CRPV3307	DEFAULT	N	1 Bit Disabled/Enabled			Invalid	SVAL
CRPV3310	DEFAULT	N	LDL mode			Invalid	SVAL
CRPV3310	MPFRPC00	N	LDL mode			Invalid	SVAL
CRPV3318	DEFAULT	N	Probe 2 Density bias range			Invalid	SVAL
CRPV3318	MPFRPC00	N	Probe 2 Density bias range			Invalid	SVAL
CRPV3319	MPFRPC00	N	Probe 1 Density bias range			Invalid	SVAL
CRPV3319	DEFAULT	N	Probe 1 Density bias range			Invalid	SVAL
CRPV331A	MPFRPC00	N	Probe 2 ADC 16			Invalid	SVAL

CALC_NAME	MODL_MODEL	GCPASS	LNAME	COEFF0	COEFF1	DEFAULT TEXT	CALC_CALTYPE
CRPV331A	DEFAULT	N	Probe 2 ADC 16			Invalid	SVAL
CRPV331B	MPFRPC00	N	Probe 1 ADC 16			Invalid	SVAL
CRPV331B	DEFAULT	N	Probe 1 ADC 16			Invalid	SVAL
CRPV331C	MPFRPC00	N	Probe 2 ADC 20			Invalid	SVAL
CRPV331C	DEFAULT	N	Probe 2 ADC 20			Invalid	SVAL
CRPV331D	MPFRPC00	N	Probe 1 ADC 20			Invalid	SVAL
CRPV331D	DEFAULT	N	Probe 1 ADC 20			Invalid	SVAL
CRPV331E	DEFAULT	N	Probe 2 feed back mode			Invalid	SVAL
CRPV331E	MPFRPC00	N	Probe 2 feed back mode			Invalid	SVAL
CRPV331F	MPFRPC00	N	Probe 1 feed back mode			Invalid	SVAL
CRPV331F	DEFAULT	N	Probe 1 feed back mode			Invalid	SVAL
CRPV3320	DEFAULT	N	MIP/LAP (relay)			Invalid	SVAL
CRPV3320	MPFRPC00	N	MIP/LAP (relay)			Invalid	SVAL
CRPV3321	DEFAULT	N	Internal Boot Strap			Invalid	SVAL
CRPV3321	MPFRPC00	N	Internal Boot Strap			Invalid	SVAL
CRPV3322	DEFAULT	N	Probe 2 connected to			Invalid	SVAL
CRPV3322	MPFRPC00	N	Probe 2 connected to			Invalid	SVAL
CRPV3323	MPFRPC00	N	Probe 2			Invalid	SVAL
CRPV3323	DEFAULT	N	Probe 2			Invalid	SVAL
CRPV3325	MPFRPC00	N	Probe 1 connected to			Invalid	SVAL
CRPV3325	DEFAULT	N	Probe 1 connected to			Invalid	SVAL
CRPV3326	DEFAULT	N	Probe 1			Invalid	SVAL
CRPV3326	MPFRPC00	N	Probe 1			Invalid	SVAL
CRPV4200	DEFAULT	N	LDL synchro			Invalid	SVAL
CRPV4200	MPFRPC00	N	LDL synchro			Invalid	SVAL
CRPV4200	MEMRPC000002	N	LDL synchro			Invalid	SVAL
CRPV5100	DEFAULT	N	1 Bit Inboard/Outboard			Invalid	SVAL
CRPV5100	MPFRPC00	N	1 Bit Inboard/Outboard			Invalid	SVAL
CRPV5100	MEMRPC000002	N	1 Bit Inboard/Outboard			Invalid	SVAL
CRPY0900	DEFAULT	N	THERMISTOR	16 Bit	EM	0	1
CRPY0900	MEMRP001	N	THERMISTOR	16 Bit	EM	0	1
CRPY0901	MEMRP002	N	THERMISTOR	16 Bit	EM	0	1
CRPY0901	DEFAULT	N	THERMISTOR	16 Bit	EM	0	1

6.4.2 P_CALVAR_ELT

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPP0001	DEFAULT	4		-55		CPOI
CRPP0001	DEFAULT	0		45		CPOI
CRPP0001	DEFAULT	0		50		CPOI
CRPP0001	DEFAULT	0		55		CPOI
CRPP0001	DEFAULT	0		60		CPOI
CRPP0001	DEFAULT	0		65		CPOI
CRPP0001	DEFAULT	0		70		CPOI
CRPP0001	DEFAULT	0		40		CPOI
CRPP0001	DEFAULT	0		85		CPOI
CRPP0001	DEFAULT	0		80		CPOI
CRPP0001	DEFAULT	4		-50		CPOI
CRPP0001	DEFAULT	4		-45		CPOI
CRPP0001	DEFAULT	4		-40		CPOI
CRPP0001	DEFAULT	3		-35		CPOI
CRPP0001	DEFAULT	3		-30		CPOI
CRPP0001	DEFAULT	3		-25		CPOI
CRPP0001	DEFAULT	3		-20		CPOI
CRPP0001	DEFAULT	0		75		CPOI
CRPP0001	DEFAULT	2		-10		CPOI
CRPP0001	DEFAULT	0		90		CPOI
CRPP0001	DEFAULT	0		35		CPOI
CRPP0001	DEFAULT	2		-15		CPOI
CRPP0001	DEFAULT	2		-5		CPOI
CRPP0001	DEFAULT	1		0		CPOI
CRPP0001	DEFAULT	1		10		CPOI
CRPP0001	DEFAULT	1		15		CPOI
CRPP0001	DEFAULT	0		30		CPOI
CRPP0001	DEFAULT	0		20		CPOI
CRPP0001	DEFAULT	0		25		CPOI
CRPP0001	DEFAULT	1		5		CPOI
CRPP0500	MPFRPC00	750		25		CPOI
CRPP0500	DEFAULT	1000		50		CPOI
CRPP0500	MPFRPC00	0		-50		CPOI
CRPP0500	MPFRPC00	100		-40		CPOI
CRPP0500	MPFRPC00	1000		50		CPOI
CRPP0500	MPFRPC00	500		0		CPOI

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPP0500	DEFAULT	750		25		CPOI
CRPP0500	MEMRPC000002	100		-40		CPOI
CRPP0500	MEMRPC000002	0		-50		CPOI
CRPP0500	MPFRPC00	250		-25		CPOI
CRPP0500	DEFAULT	250		-25		CPOI
CRPP0500	DEFAULT	0		-50		CPOI
CRPP0500	MEMRPC000002	250		-25		CPOI
CRPP0500	MEMRPC000002	500		0		CPOI
CRPP0500	MEMRPC000002	750		25		CPOI
CRPP0500	MEMRPC000002	1000		50		CPOI
CRPP0500	DEFAULT	500		0		CPOI
CRPP0500	DEFAULT	100		-40		CPOI
CRPP0501	MEMRPC000002	-128		4		CPOI
CRPP0501	MEMRPC000002	127		5		CPOI
CRPP0501	MPFRPC00	127		5		CPOI
CRPP0501	MPFRPC00	-128		4		CPOI
CRPP0501	DEFAULT	127		5		CPOI
CRPP0501	DEFAULT	-128		4		CPOI
CRPP0502	MEMRPC000002	-128		-5		CPOI
CRPP0502	DEFAULT	-128		-5		CPOI
CRPP0502	MEMRPC000002	127		-4		CPOI
CRPP0502	DEFAULT	127		-4		CPOI
CRPP0502	MPFRPC00	127		-4		CPOI
CRPP0502	MPFRPC00	-128		-5		CPOI
CRPP0503	DEFAULT	127		14		CPOI
CRPP0503	MPFRPC00	-128		9		CPOI
CRPP0503	MPFRPC00	127		14		CPOI
CRPP0503	DEFAULT	-128		9		CPOI
CRPP0503	MEMRPC000002	-128		9		CPOI
CRPP0503	MEMRPC000002	127		14		CPOI
CRPP0504	MEMRPC000002	127		-9		CPOI
CRPP0504	MPFRPC00	127		-9		CPOI
CRPP0504	MPFRPC00	-128		-14		CPOI
CRPP0504	DEFAULT	127		-9		CPOI
CRPP0504	DEFAULT	-128		-14		CPOI
CRPP0504	MEMRPC000002	-128		-14		CPOI
CRPP0505	MPFRPC00	-128		23		CPOI
CRPP0505	MEMRPC000002	-128		23		CPOI
CRPP0505	MPFRPC00	127		32		CPOI
CRPP0505	DEFAULT	127		32		CPOI
CRPP0505	DEFAULT	-128		23		CPOI
CRPP0505	MEMRPC000002	127		32		CPOI
CRPP150A	DEFAULT	0		0		CPOI
CRPP150A	MPFRPC00	8191		5000		CPOI
CRPP150A	DEFAULT	8191		5000		CPOI
CRPP150A	MPFRPC00	0		0		CPOI
CRPP150C	DEFAULT	0		0		CPOI
CRPP150C	MPFRPC00	8191		-5000		CPOI
CRPP150C	DEFAULT	8191		-5000		CPOI
CRPP150C	MPFRPC00	0		0		CPOI
CRPP150E	MPFRPC00	6827		8500		CPOI
CRPP150E	MPFRPC00	0		0		CPOI
CRPP150E	DEFAULT	6827		8500		CPOI
CRPP150E	DEFAULT	0		0		CPOI
CRPP151A	DEFAULT	0		0		CPOI
CRPP151A	DEFAULT	-4545		-5		CPOI
CRPP151A	MPFRPC00	-4545		-5		CPOI
CRPP151A	MPFRPC00	0		0		CPOI
CRPP151B	MPFRPC00	4545		5		CPOI
CRPP151B	DEFAULT	0		0		CPOI
CRPP151B	DEFAULT	4545		5		CPOI
CRPP151B	MPFRPC00	0		0		CPOI
CRPP151C	DEFAULT	-3246		-12		CPOI
CRPP151C	MPFRPC00	-3246		-12		CPOI
CRPP151C	DEFAULT	0		0		CPOI
CRPP151C	MPFRPC00	0		0		CPOI
CRPP151D	MPFRPC00	3246		12		CPOI
CRPP151D	MPFRPC00	0		0		CPOI
CRPP151D	DEFAULT	3246		12		CPOI
CRPP151D	DEFAULT	0		0		CPOI
CRPP2001	MEMRPC000002	2		0		CPOI
CRPP2001	MEMRPC000002	3		1		CPOI
CRPP2001	MPFRPC00	2		0		CPOI
CRPP2001	MPFRPC00	3		1		CPOI
CRPP2001	DEFAULT	2		0		CPOI
CRPP2001	DEFAULT	3		1		CPOI
CRPP2002	DEFAULT	4		0		CPOI
CRPP2002	MPFRPC00	5		1		CPOI
CRPP2002	MPFRPC00	4		0		CPOI

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPP2002	DEFAULT	5		1		CPOI
CRPP2002	MEMRPC000002	5		1		CPOI
CRPP2002	MEMRPC000002	4		0		CPOI
CRPP2003	DEFAULT	6		0		CPOI
CRPP2003	MPFRPC00	7		1		CPOI
CRPP2003	DEFAULT	7		1		CPOI
CRPP2003	MPFRPC00	6		0		CPOI
CRPP2003	MEMRPC000002	6		0		CPOI
CRPP2003	MEMRPC000002	7		1		CPOI
CRPP2004	MPFRPC00	8		0		CPOI
CRPP2004	MPFRPC00	9		1		CPOI
CRPP2004	DEFAULT	9		1		CPOI
CRPP2004	DEFAULT	8		0		CPOI
CRPP2004	MEMRPC000002	9		1		CPOI
CRPP2004	MEMRPC000002	8		0		CPOI
CRPP2005	DEFAULT	11		1		CPOI
CRPP2005	MEMRPC000002	11		1		CPOI
CRPP2005	DEFAULT	10		0		CPOI
CRPP2005	MPFRPC00	10		0		CPOI
CRPP2005	MEMRPC000002	10		0		CPOI
CRPP2005	MPFRPC00	11		1		CPOI
CRPP2006	MEMRPC000002	12		0		CPOI
CRPP2006	MEMRPC000002	13		1		CPOI
CRPP2006	DEFAULT	12		0		CPOI
CRPP2006	DEFAULT	13		1		CPOI
CRPP2006	MPFRPC00	12		0		CPOI
CRPP2006	MPFRPC00	13		1		CPOI
CRPP2007	MPFRPC00	15		1		CPOI
CRPP2007	MPFRPC00	14		0		CPOI
CRPP2007	DEFAULT	15		1		CPOI
CRPP2007	MEMRPC000002	14		0		CPOI
CRPP2007	DEFAULT	14		0		CPOI
CRPP2007	MEMRPC000002	15		1		CPOI
CRPP2008	DEFAULT	16		0		CPOI
CRPP2008	MEMRPC000002	16		0		CPOI
CRPP2008	MPFRPC00	17		1		CPOI
CRPP2008	MPFRPC00	16		0		CPOI
CRPP2008	DEFAULT	17		1		CPOI
CRPP2008	MEMRPC000002	17		1		CPOI
CRPP2009	MEMRPC000002	19		1		CPOI
CRPP2009	MEMRPC000002	18		0		CPOI
CRPP2009	DEFAULT	18		0		CPOI
CRPP2009	DEFAULT	19		1		CPOI
CRPP2009	MPFRPC00	18		0		CPOI
CRPP2009	MPFRPC00	19		1		CPOI
CRPP2010	MPFRPC00	20		0		CPOI
CRPP2010	MEMRPC000002	21		1		CPOI
CRPP2010	MPFRPC00	21		1		CPOI
CRPP2010	DEFAULT	21		1		CPOI
CRPP2010	MEMRPC000002	20		0		CPOI
CRPP2010	DEFAULT	20		0		CPOI
CRPP2011	MPFRPC00	22		0		CPOI
CRPP2011	DEFAULT	23		1		CPOI
CRPP2011	MPFRPC00	23		1		CPOI
CRPP2011	DEFAULT	22		0		CPOI
CRPP2012	MPFRPC00	25		1		CPOI
CRPP2012	MPFRPC00	24		0		CPOI
CRPP2012	DEFAULT	24		0		CPOI
CRPP2012	DEFAULT	25		1		CPOI
CRPP2014	MPFRPC00	29		1		CPOI
CRPP2014	MPFRPC00	28		0		CPOI
CRPP2014	DEFAULT	29		1		CPOI
CRPP2014	DEFAULT	28		0		CPOI
CRPP2014	MEMRPC000002	28		0		CPOI
CRPP2014	MEMRPC000002	29		1		CPOI
CRPP2015	DEFAULT	31		1		CPOI
CRPP2015	MEMRPC000002	30		0		CPOI
CRPP2015	MEMRPC000002	31		1		CPOI
CRPP2015	DEFAULT	30		0		CPOI
CRPP2015	MPFRPC00	31		1		CPOI
CRPP2015	MPFRPC00	30		0		CPOI
CRPP2016	DEFAULT	32		0		CPOI
CRPP2016	DEFAULT	33		1		CPOI
CRPP2016	MEMRPC000002	33		1		CPOI
CRPP2016	MEMRPC000002	32		0		CPOI
CRPP2016	MPFRPC00	33		1		CPOI
CRPP2016	MPFRPC00	32		0		CPOI
CRPP2017	MEMRPC000002	35		1		CPOI
CRPP2017	DEFAULT	35		1		CPOI

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPP2017	MPFRPC00	34		0		CPOI
CRPP2017	MPFRPC00	35		1		CPOI
CRPP2017	DEFAULT	34		0		CPOI
CRPP2017	MEMRPC000002	34		0		CPOI
CRPP2111	MEMRPC000002	176		0		CPOI
CRPP2111	MPFRPC00	191		15		CPOI
CRPP2111	MEMRPC000002	191		15		CPOI
CRPP2111	DEFAULT	191		15		CPOI
CRPP2111	MPFRPC00	176		0		CPOI
CRPP2111	DEFAULT	176		0		CPOI
CRPP2112	MPFRPC00	207		15		CPOI
CRPP2112	MEMRPC000002	207		15		CPOI
CRPP2112	DEFAULT	192		0		CPOI
CRPP2112	DEFAULT	207		15		CPOI
CRPP2112	MPFRPC00	192		0		CPOI
CRPP2112	MEMRPC000002	192		0		CPOI
CRPP2113	MEMRPC000002	208		0		CPOI
CRPP2113	MPFRPC00	208		0		CPOI
CRPP2113	DEFAULT	208		0		CPOI
CRPP2113	MPFRPC00	223		15		CPOI
CRPP2113	MEMRPC000002	223		15		CPOI
CRPP2113	DEFAULT	223		15		CPOI
CRPP2114	MEMRPC000002	224		0		CPOI
CRPP2114	MPFRPC00	229		5		CPOI
CRPP2114	MPFRPC00	224		0		CPOI
CRPP2114	DEFAULT	224		0		CPOI
CRPP2114	MEMRPC000002	229		5		CPOI
CRPP2114	DEFAULT	229		5		CPOI
CRPP2115	DEFAULT	240		0		CPOI
CRPP2115	DEFAULT	255		15		CPOI
CRPP2115	MPFRPC00	255		15		CPOI
CRPP2115	MPFRPC00	240		0		CPOI
CRPP2201	MEMRPC000002	351		95		CPOI
CRPP2201	DEFAULT	256		0		CPOI
CRPP2201	MPFRPC00	351		95		CPOI
CRPP2201	MPFRPC00	256		0		CPOI
CRPP2201	DEFAULT	351		95		CPOI
CRPP2201	MEMRPC000002	256		0		CPOI
CRPP2202	MPFRPC00	512		0		CPOI
CRPP2202	MPFRPC00	527		15		CPOI
CRPP2202	DEFAULT	527		15		CPOI
CRPP2202	DEFAULT	512		0		CPOI
CRPP2202	MEMRPC000002	512		0		CPOI
CRPP2202	MEMRPC000002	527		15		CPOI
CRPP2203	MPFRPC00	832		64		CPOI
CRPP2203	MEMRPC000002	832		64		CPOI
CRPP2203	MEMRPC000002	768		0		CPOI
CRPP2203	DEFAULT	768		0		CPOI
CRPP2203	DEFAULT	832		64		CPOI
CRPP2203	MPFRPC00	768		0		CPOI
CRPP2204	MPFRPC00	1279		255		CPOI
CRPP2204	MPFRPC00	1024		0		CPOI
CRPP2204	DEFAULT	1024		0		CPOI
CRPP2204	MEMRPC000002	1024		0		CPOI
CRPP2204	MEMRPC000002	1279		255		CPOI
CRPP2204	DEFAULT	1279		255		CPOI
CRPP2205	DEFAULT	1280		0		CPOI
CRPP2205	DEFAULT	1535		255		CPOI
CRPP2205	MPFRPC00	1255		255		CPOI
CRPP2205	MPFRPC00	1280		0		CPOI
CRPP2210	MEMRPC000002	2599		39		CPOI
CRPP2210	MPFRPC00	2560		0		CPOI
CRPP2210	MPFRPC00	2599		39		CPOI
CRPP2210	DEFAULT	2560		0		CPOI
CRPP2210	DEFAULT	2599		39		CPOI
CRPP2210	MEMRPC000002	2560		0		CPOI
CRPP2212	MPFRPC00	3088		16		CPOI
CRPP2212	DEFAULT	3072		0		CPOI
CRPP2212	MEMRPC000002	3088		16		CPOI
CRPP2212	MEMRPC000002	3072		0		CPOI
CRPP2212	DEFAULT	3088		16		CPOI
CRPP2212	MPFRPC00	3072		0		CPOI
CRPP2213	MEMRPC000002	3343		15		CPOI
CRPP2213	MEMRPC000002	3328		0		CPOI
CRPP2213	DEFAULT	3343		15		CPOI
CRPP2213	DEFAULT	3328		0		CPOI
CRPP2301	MEMRPC000002	4103		7		CPOI
CRPP2301	MEMRPC000002	4096		0		CPOI
CRPP2301	DEFAULT	4103		7		CPOI

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPP2301	MPFRPC00	4096		0		CPOI
CRPP2301	MPFRPC00	4103		7		CPOI
CRPP2301	DEFAULT	4096		0		CPOI
CRPP2302	MEMRPC000002	8192		0		CPOI
CRPP2302	MEMRPC000002	8199		7		CPOI
CRPP2302	DEFAULT	8192		0		CPOI
CRPP2302	DEFAULT	8199		7		CPOI
CRPP2302	MPFRPC00	8192		0		CPOI
CRPP2302	MPFRPC00	8199		7		CPOI
CRPP2303	MPFRPC00	12295		7		CPOI
CRPP2303	MEMRPC000002	12288		0		CPOI
CRPP2303	MEMRPC000002	12295		7		CPOI
CRPP2303	DEFAULT	12288		0		CPOI
CRPP2303	MPFRPC00	12288		0		CPOI
CRPP2303	DEFAULT	12295		7		CPOI
CRPP2304	MPFRPC00	16384		0		CPOI
CRPP2304	MEMRPC000002	16391		7		CPOI
CRPP2304	MEMRPC000002	16384		0		CPOI
CRPP2304	DEFAULT	16391		7		CPOI
CRPP2304	MPFRPC00	16391		7		CPOI
CRPP2304	DEFAULT	16384		0		CPOI
CRPP2305	MPFRPC00	20487		7		CPOI
CRPP2305	MPFRPC00	20480		0		CPOI
CRPP2305	DEFAULT	20487		7		CPOI
CRPP2305	DEFAULT	20480		0		CPOI
CRPP2305	MEMRPC000002	20480		0		CPOI
CRPP2305	MEMRPC000002	20487		7		CPOI
CRPP2306	MPFRPC00	28671		4095		CPOI
CRPP2306	DEFAULT	28671		4095		CPOI
CRPP2306	MPFRPC00	24576		0		CPOI
CRPP2306	MEMRPC000002	28671		4095		CPOI
CRPP2306	DEFAULT	24576		0		CPOI
CRPP2306	MEMRPC000002	24576		0		CPOI
CRPP2307	MEMRPC000002	28672		0		CPOI
CRPP2307	DEFAULT	32767		4095		CPOI
CRPP2307	MPFRPC00	28672		0		CPOI
CRPP2307	MEMRPC000002	32767		4095		CPOI
CRPP2307	DEFAULT	28672		0		CPOI
CRPP2307	MPFRPC00	32767		4095		CPOI
CRPP2308	MEMRPC000002	32768		0		CPOI
CRPP2308	MPFRPC00	32768		0		CPOI
CRPP2308	DEFAULT	36863		4095		CPOI
CRPP2308	MEMRPC000002	36863		4095		CPOI
CRPP2308	MPFRPC00	36863		4095		CPOI
CRPP2308	DEFAULT	32768		0		CPOI
CRPP2309	MEMRPC000002	40959		4095		CPOI
CRPP2309	MPFRPC00	40959		4095		CPOI
CRPP2309	MEMRPC000002	36864		0		CPOI
CRPP2309	MPFRPC00	36864		0		CPOI
CRPP2309	DEFAULT	40959		4095		CPOI
CRPP2309	DEFAULT	36864		0		CPOI
CRPP2310	MPFRPC00	40960		0		CPOI
CRPP2310	DEFAULT	40960		0		CPOI
CRPP2310	DEFAULT	45055		4095		CPOI
CRPP2310	MEMRPC000002	45055		4095		CPOI
CRPP2310	MEMRPC000002	40960		0		CPOI
CRPP2310	MPFRPC00	45055		4095		CPOI
CRPP2311	DEFAULT	49151		4095		CPOI
CRPP2311	MEMRPC000002	49151		4095		CPOI
CRPP2311	DEFAULT	45056		0		CPOI
CRPP2311	MPFRPC00	45056		0		CPOI
CRPP2311	MPFRPC00	49151		4095		CPOI
CRPP2311	MEMRPC000002	45056		0		CPOI
CRPP2312	DEFAULT	49152		0		CPOI
CRPP2312	MEMRPC000002	49152		0		CPOI
CRPP2312	MPFRPC00	53247		4095		CPOI
CRPP2312	MPFRPC00	49152		0		CPOI
CRPP2312	DEFAULT	53247		4095		CPOI
CRPP2312	MEMRPC000002	53247		4095		CPOI
CRPP2313	MPFRPC00	53248		0		CPOI
CRPP2313	MPFRPC00	57343		4095		CPOI
CRPP2313	DEFAULT	57343		4095		CPOI
CRPP2313	DEFAULT	53248		0		CPOI
CRPP2313	MEMRPC000002	53248		0		CPOI
CRPP2313	MEMRPC000002	57343		4095		CPOI
CRPP2530	DEFAULT	0		0		CPOI
CRPP2530	MPFRPC00	255		5		CPOI
CRPP2530	MPFRPC00	0		0		CPOI
CRPP2530	DEFAULT	255		5		CPOI

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPP2538	DEFAULT	0		0		CPOI
CRPP2538	MPFRPC00	255		5		CPOI
CRPP2538	DEFAULT	255		5		CPOI
CRPP2538	MPFRPC00	0		0		CPOI
CRPP2540	MPFRPC00	255		5		CPOI
CRPP2540	MPFRPC00	0		0		CPOI
CRPP2540	DEFAULT	255		5		CPOI
CRPP2540	DEFAULT	0		0		CPOI
CRPP2548	MPFRPC00	255		100		CPOI
CRPP2548	MPFRPC00	0		0		CPOI
CRPP2548	DEFAULT	255		100		CPOI
CRPP2548	DEFAULT	0		0		CPOI
CRPP2548	MEMRPC000002	7		5		CPOI
CRPP2548	MEMRPC000002	0		0		CPOI
CRPP2550	MPFRPC00	0		0		CPOI
CRPP2550	MPFRPC00	255		5		CPOI
CRPP2550	DEFAULT	0		0		CPOI
CRPP2550	DEFAULT	255		5		CPOI
CRPP2554	DEFAULT	7		5		CPOI
CRPP2554	MEMRPC000002	0		0		CPOI
CRPP2554	MEMRPC000002	7		5		CPOI
CRPP2554	DEFAULT	0		0		CPOI
CRPP2558	DEFAULT	0		0		CPOI
CRPP2558	MPFRPC00	0		0		CPOI
CRPP2558	MPFRPC00	255		5		CPOI
CRPP2558	DEFAULT	255		5		CPOI
CRPP2560	MPFRPC00	255		60		CPOI
CRPP2560	DEFAULT	0		-60		CPOI
CRPP2560	DEFAULT	255		60		CPOI
CRPP2560	MEMRPC000002	0		-5		CPOI
CRPP2560	MEMRPC000002	4095		5		CPOI
CRPP2560	MPFRPC00	0		-60		CPOI
CRPP2568	MPFRPC00	255		60		CPOI
CRPP2568	MPFRPC00	0		-60		CPOI
CRPP2568	DEFAULT	255		60		CPOI
CRPP2568	DEFAULT	0		-60		CPOI
CRPP256C	MEMRPC000002	0		-5		CPOI
CRPP256C	DEFAULT	4095		5		CPOI
CRPP256C	MEMRPC000002	4095		5		CPOI
CRPP256C	DEFAULT	0		-5		CPOI
CRPP2578	DEFAULT	7		5		CPOI
CRPP2578	MEMRPC000002	7		5		CPOI
CRPP2578	DEFAULT	0		0		CPOI
CRPP2578	MEMRPC000002	0		0		CPOI
CRPP2584	DEFAULT	4095		5		CPOI
CRPP2584	MEMRPC000002	4095		5		CPOI
CRPP2584	DEFAULT	0		0		CPOI
CRPP2584	MEMRPC000002	0		0		CPOI
CRPP2590	MEMRPC000002	0		0		CPOI
CRPP2590	DEFAULT	0		0		CPOI
CRPP2590	MEMRPC000002	4095		100		CPOI
CRPP2590	DEFAULT	4095		100		CPOI
CRPP259C	MEMRPC000002	4095		168		CPOI
CRPP259C	MEMRPC000002	0		-273		CPOI
CRPP259C	DEFAULT	0		-273		CPOI
CRPP259C	DEFAULT	4095		168		CPOI
CRPP25A7	DEFAULT	0		-5		CPOI
CRPP25A7	MPFRPC00	0		-5		CPOI
CRPP25A7	MPFRPC00	511		5		CPOI
CRPP25A7	DEFAULT	511		5		CPOI
CRPP25A8	DEFAULT	0		0		CPOI
CRPP25A8	DEFAULT	4095		12		CPOI
CRPP25A8	MEMRPC000002	0		0		CPOI
CRPP25A8	MEMRPC000002	4095		12		CPOI
CRPP25B4	DEFAULT	4095		181		CPOI
CRPP25B4	MEMRPC000002	0		-273		CPOI
CRPP25B4	DEFAULT	0		-273		CPOI
CRPP25B4	MEMRPC000002	4095		181		CPOI
CRPP25B7	MPFRPC00	511		5		CPOI
CRPP25B7	DEFAULT	0		-5		CPOI
CRPP25B7	MPFRPC00	0		-5		CPOI
CRPP25B7	DEFAULT	511		5		CPOI
CRPP3500	MPFRPC00	191		-48		CPOI
CRPP3500	DEFAULT	191		-48		CPOI
CRPP3500	DEFAULT	255		-63		CPOI
CRPP3500	MPFRPC00	0		64		CPOI
CRPP3500	MPFRPC00	32		48		CPOI
CRPP3500	MPFRPC00	64		32		CPOI
CRPP3500	DEFAULT	159		-32		CPOI

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPP3500	MPFRPC00	159		-32		CPOI
CRPP3500	MPFRPC00	127		0		CPOI
CRPP3500	DEFAULT	127		0		CPOI
CRPP3500	DEFAULT	64		32		CPOI
CRPP3500	DEFAULT	32		48		CPOI
CRPP3500	MPFRPC00	255		-63		CPOI
CRPP3500	MEMRPC000002	191		-48		CPOI
CRPP3500	MEMRPC000002	159		-32		CPOI
CRPP3500	MEMRPC000002	127		0		CPOI
CRPP3500	MEMRPC000002	64		32		CPOI
CRPP3500	MEMRPC000002	32		48		CPOI
CRPP3500	MEMRPC000002	0		64		CPOI
CRPP3500	MEMRPC000002	255		-63		CPOI
CRPP3500	DEFAULT	0		64		CPOI
CRPP4500	MEMRPC000002	10000		-50		CPOI
CRPP4500	MPFRPC00	13100		-50		CPOI
CRPP4500	MPFRPC00	15150		-100		CPOI
CRPP4500	MPFRPC00	15800		-150		CPOI
CRPP4500	MPFRPC00	-7860		0		CPOI
CRPP4500	MEMRPC000002	1000		-100		CPOI
CRPP4500	DEFAULT	13100		-50		CPOI
CRPP4500	MEMRPC000002	20000		-25		CPOI
CRPP4500	MEMRPC000002	40000		0		CPOI
CRPP4500	MEMRPC000002	50000		25		CPOI
CRPP4500	MEMRPC000002	60000		50		CPOI
CRPP4500	MEMRPC000002	65000		100		CPOI
CRPP4500	MPFRPC00	1970		-25		CPOI
CRPP4500	DEFAULT	-14580		50		CPOI
CRPP4500	DEFAULT	1970		-25		CPOI
CRPP4500	DEFAULT	-7860		0		CPOI
CRPP4500	DEFAULT	-13100		25		CPOI
CRPP4500	MEMRPC000002	0		-150		CPOI
CRPP4500	MPFRPC00	-14580		50		CPOI
CRPP4500	MPFRPC00	-15730		100		CPOI
CRPP4500	DEFAULT	15800		-150		CPOI
CRPP4500	DEFAULT	15150		-100		CPOI
CRPP4500	MPFRPC00	-13100		25		CPOI
CRPP4500	DEFAULT	-15730		100		CPOI
CRPP5501	DEFAULT	50346		40		CPOI
CRPP5501	MPFRPC00	51630		90		CPOI
CRPP5501	DEFAULT	49466		10		CPOI
CRPP5501	MPFRPC00	51389		80		CPOI
CRPP5501	MPFRPC00	51141		70		CPOI
CRPP5501	MPFRPC00	51863		100		CPOI
CRPP5501	MPFRPC00	50884		60		CPOI
CRPP5501	DEFAULT	49769		20		CPOI
CRPP5501	MPFRPC00	48825		-10		CPOI
CRPP5501	DEFAULT	49152		0		CPOI
CRPP5501	DEFAULT	48825		-10		CPOI
CRPP5501	DEFAULT	48487		-20		CPOI
CRPP5501	DEFAULT	48136		-30		CPOI
CRPP5501	DEFAULT	47771		-40		CPOI
CRPP5501	DEFAULT	47391		-50		CPOI
CRPP5501	DEFAULT	46996		-60		CPOI
CRPP5501	DEFAULT	46584		-70		CPOI
CRPP5501	DEFAULT	46154		-80		CPOI
CRPP5501	DEFAULT	45704		-90		CPOI
CRPP5501	DEFAULT	45235		-100		CPOI
CRPP5501	DEFAULT	50063		30		CPOI
CRPP5501	MEMRPC000002	250		-25		CPOI
CRPP5501	DEFAULT	51630		90		CPOI
CRPP5501	DEFAULT	51863		100		CPOI
CRPP5501	MPFRPC00	45235		-100		CPOI
CRPP5501	MPFRPC00	49769		20		CPOI
CRPP5501	MPFRPC00	45704		-90		CPOI
CRPP5501	DEFAULT	51141		70		CPOI
CRPP5501	MPFRPC00	46154		-80		CPOI
CRPP5501	MPFRPC00	46584		-70		CPOI
CRPP5501	MPFRPC00	46996		-60		CPOI
CRPP5501	MEMRPC000002	1000		50		CPOI
CRPP5501	MPFRPC00	49466		10		CPOI
CRPP5501	MEMRPC000002	500		0		CPOI
CRPP5501	MPFRPC00	50620		50		CPOI
CRPP5501	MEMRPC000002	100		-40		CPOI
CRPP5501	MEMRPC000002	0		-50		CPOI
CRPP5501	DEFAULT	50884		60		CPOI
CRPP5501	DEFAULT	50620		50		CPOI
CRPP5501	MPFRPC00	47391		-50		CPOI
CRPP5501	MPFRPC00	47771		-40		CPOI

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPP5501	MPFRPC00	48136		-30		CPOI
CRPP5501	MPFRPC00	48487		-20		CPOI
CRPP5501	DEFAULT	51389		80		CPOI
CRPP5501	MPFRPC00	49152		0		CPOI
CRPP5501	MPFRPC00	50063		30		CPOI
CRPP5501	MEMRPC000002	750		25		CPOI
CRPP5501	MPFRPC00	50346		40		CPOI
CRPP5502	DEFAULT	45235		-100		CPOI
CRPP5502	DEFAULT	48825		-10		CPOI
CRPP5502	DEFAULT	48487		-20		CPOI
CRPP5502	DEFAULT	48136		-30		CPOI
CRPP5502	DEFAULT	47771		-40		CPOI
CRPP5502	DEFAULT	47391		-50		CPOI
CRPP5502	DEFAULT	46996		-60		CPOI
CRPP5502	DEFAULT	46584		-70		CPOI
CRPP5502	MEMRPC000002	0		-50		CPOI
CRPP5502	DEFAULT	45704		-90		CPOI
CRPP5502	DEFAULT	49769		20		CPOI
CRPP5502	MPFRPC00	49152		0		CPOI
CRPP5502	MEMRPC000002	1000		50		CPOI
CRPP5502	MEMRPC000002	750		25		CPOI
CRPP5502	MEMRPC000002	500		0		CPOI
CRPP5502	MEMRPC000002	250		-25		CPOI
CRPP5502	MEMRPC000002	100		-40		CPOI
CRPP5502	DEFAULT	46154		-80		CPOI
CRPP5502	DEFAULT	51630		90		CPOI
CRPP5502	MPFRPC00	48825		-10		CPOI
CRPP5502	MPFRPC00	48487		-20		CPOI
CRPP5502	MPFRPC00	48136		-30		CPOI
CRPP5502	MPFRPC00	47771		-40		CPOI
CRPP5502	MPFRPC00	47391		-50		CPOI
CRPP5502	MPFRPC00	46584		-70		CPOI
CRPP5502	MPFRPC00	45704		-90		CPOI
CRPP5502	DEFAULT	49152		0		CPOI
CRPP5502	DEFAULT	51863		100		CPOI
CRPP5502	DEFAULT	49466		10		CPOI
CRPP5502	DEFAULT	51389		80		CPOI
CRPP5502	DEFAULT	51141		70		CPOI
CRPP5502	DEFAULT	50884		60		CPOI
CRPP5502	DEFAULT	50620		50		CPOI
CRPP5502	DEFAULT	50346		40		CPOI
CRPP5502	DEFAULT	50063		30		CPOI
CRPP5502	MPFRPC00	46154		-80		CPOI
CRPP5502	MPFRPC00	45235		-100		CPOI
CRPP5502	MPFRPC00	49466		10		CPOI
CRPP5502	MPFRPC00	46996		-60		CPOI
CRPP5502	MPFRPC00	51630		90		CPOI
CRPP5502	MPFRPC00	51389		80		CPOI
CRPP5502	MPFRPC00	51141		70		CPOI
CRPP5502	MPFRPC00	50884		60		CPOI
CRPP5502	MPFRPC00	50620		50		CPOI
CRPP5502	MPFRPC00	50346		40		CPOI
CRPP5502	MPFRPC00	50063		30		CPOI
CRPP5502	MPFRPC00	49769		20		CPOI
CRPP5502	MPFRPC00	51863		100		CPOI
CRPP5503	DEFAULT	0		-16000		CPOI
CRPP5503	MEMRPC000002	0		-16000		CPOI
CRPP5503	MEMRPC000002	65536		16000		CPOI
CRPP5503	DEFAULT	65536		16000		CPOI
CRPP5503	MPFRPC00	0		-16000		CPOI
CRPP5503	MPFRPC00	65536		16000		CPOI
CRPP5504	DEFAULT	0		-16000		CPOI
CRPP5504	DEFAULT	65536		16000		CPOI
CRPP5504	MPFRPC00	0		-16000		CPOI
CRPP5504	MPFRPC00	65536		16000		CPOI
CRPP5504	MEMRPC000002	0		-16000		CPOI
CRPP5504	MEMRPC000002	65536		16000		CPOI
CRPP5505	MEMRPC000002	0		-16000		CPOI
CRPP5505	MEMRPC000002	65536		16000		CPOI
CRPP5505	MPFRPC00	65536		16000		CPOI
CRPP5505	MPFRPC00	0		-16000		CPOI
CRPP5505	DEFAULT	65536		16000		CPOI
CRPP5505	DEFAULT	0		-16000		CPOI
CRPR0011	DEFAULT	0	65535		Keyhole	SINT
CRPR0011	MPFRPC00	0	65535		Keyhole	SINT
CRPR0011	MEMRPC000002	0	65535		Keyhole	SINT
CRPR0012	MPFRPC00	0	16000		Delay	SINT
CRPR0012	MEMRPC000002	0	16000		Delay	SINT
CRPR0012	DEFAULT	0	16000		Delay	SINT

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPR0013	DEFAULT	0	65535		Time Period	SINT
CRPR0013	MPFRPC00	0	65535		Time Period	SINT
CRPR0013	MEMRPC000002	0	65535		Time Period	SINT
CRPR0014	MPFRPC00	0	65535		Threshold	SINT
CRPR0014	MEMRPC000002	0	65535		Threshold	SINT
CRPR0014	DEFAULT	0	65535		Threshold	SINT
CRPR0015	DEFAULT	0	65535		Mode	SINT
CRPR0015	MPFRPC00	0	65535		Mode	SINT
CRPR0015	MEMRPC000002	0	65535		Mode	SINT
CRPR0016	DEFAULT	0	65535		Time	SINT
CRPR0016	MEMRPC000002	0	65535		Time	SINT
CRPR0016	MPFRPC00	0	65535		Time	SINT
CRPR0017	DEFAULT	0	65535		Repetition	SINT
CRPR0017	MEMRPC000002	0	65535		Repetition	SINT
CRPR0017	MPFRPC00	0	65535		Repetition	SINT
CRPV0100	MEMRPC000002	1	1		ON	SVAL
CRPV0100	MEMRPC000002	0	0		OFF	SVAL
CRPV0100	MPFRPC00	1	1		ON	SVAL
CRPV0100	MPFRPC00	0	0		OFF	SVAL
CRPV0100	DEFAULT	1	1		ON	SVAL
CRPV0100	DEFAULT	0	0		OFF	SVAL
CRPV0101	MPFRPC00	1	1		TRUE	SVAL
CRPV0101	MEMRPC000002	1	1		TRUE	SVAL
CRPV0101	DEFAULT	0	0		FALSE	SVAL
CRPV0101	DEFAULT	1	1		TRUE	SVAL
CRPV0101	MEMRPC000002	0	0		FALSE	SVAL
CRPV0101	MPFRPC00	0	0		FALSE	SVAL
CRPV0102	DEFAULT	1	1		Connect	SVAL
CRPV0102	MPFRPC00	0	0		Disconnect	SVAL
CRPV0102	MPFRPC00	1	1		Connect	SVAL
CRPV0102	MEMRPC000002	1	1		Connect	SVAL
CRPV0102	MEMRPC000002	0	0		Disconnect	SVAL
CRPV0102	DEFAULT	0	0		Disconnect	SVAL
CRPV0103	MEMRPC000002	0	0		Disable	SVAL
CRPV0103	MEMRPC000002	1	1		Enable	SVAL
CRPV0103	DEFAULT	0	0		Disable	SVAL
CRPV0103	DEFAULT	1	1		Enable	SVAL
CRPV0103	MPFRPC00	0	0		Disable	SVAL
CRPV0103	MPFRPC00	1	1		Enable	SVAL
CRPV0104	MPFRPC00	0	0		OK	SVAL
CRPV0104	DEFAULT	1	1		Error	SVAL
CRPV0104	DEFAULT	0	0		OK	SVAL
CRPV0104	MEMRPC000002	1	1		Error	SVAL
CRPV0104	MEMRPC000002	0	0		OK	SVAL
CRPV0104	MPFRPC00	1	1		Error	SVAL
CRPV0105	DEFAULT	57005	57005		Deactivate	SVAL
CRPV0105	MPFRPC00	47806	47806		All ON	SVAL
CRPV0105	MPFRPC00	57005	57005		All OFF	SVAL
CRPV0105	MPFRPC00	1535	1535		MAG ON	SVAL
CRPV0105	DEFAULT	47806	47806		Activate	SVAL
CRPV0105	MPFRPC00	767	767		ICA ON	SVAL
CRPV0105	MPFRPC00	255	255		PIU ON	SVAL
CRPV0105	MPFRPC00	0	0		PIU OFF	SVAL
CRPV0105	MPFRPC00	512	512		ICA OFF	SVAL
CRPV0105	MPFRPC00	1280	1280		MAG OFF	SVAL
CRPV0106	MPFRPC00	57005	57005		Asleep	SVAL
CRPV0106	MPFRPC00	47806	47806		Active	SVAL
CRPV0110	MPFRPC00	0	0		Main	SVAL
CRPV0110	MEMRPC000002	0	0		Main	SVAL
CRPV0110	DEFAULT	1	1		Red	SVAL
CRPV0110	MPFRPC00	1	1		Red	SVAL
CRPV0110	MEMRPC000002	1	1		Red	SVAL
CRPV0110	DEFAULT	0	0		Main	SVAL
CRPV0111	MPFRPC00	0	0		Normal	SVAL
CRPV0111	DEFAULT	0	0		Normal	SVAL
CRPV0111	DEFAULT	1	1		Maint.	SVAL
CRPV0111	MEMRPC000002	1	1		Maint.	SVAL
CRPV0111	MPFRPC00	1	1		Maint.	SVAL
CRPV0111	MEMRPC000002	0	0		Normal	SVAL
CRPV0112	MPFRPC00	0	0		Normal	SVAL
CRPV0112	DEFAULT	1	1		Inverted	SVAL
CRPV0112	DEFAULT	0	0		Normal	SVAL
CRPV0112	MEMRPC000002	1	1		Inverted	SVAL
CRPV0112	MPFRPC00	1	1		Inverted	SVAL
CRPV0112	MEMRPC000002	0	0		Normal	SVAL
CRPV0113	DEFAULT	1	1		PROM on	SVAL
CRPV0113	DEFAULT	0	0		PROM off	SVAL
CRPV0113	MPFRPC00	0	0		PROM off	SVAL
CRPV0113	MPFRPC00	1	1		PROM on	SVAL

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPV0114	DEFAULT	1	1		Mntr on	SVAL
CRPV0114	MPFRPC00	0	0		Mntr off	SVAL
CRPV0114	MPFRPC00	1	1		Mntr on	SVAL
CRPV0114	DEFAULT	0	0		Mntr off	SVAL
CRPV0200	MPFRPC00	0	0		EM	SVAL
CRPV0200	DEFAULT	1	1		QM	SVAL
CRPV0200	DEFAULT	3	3		FS	SVAL
CRPV0200	MPFRPC00	1	1		QM	SVAL
CRPV0200	MPFRPC00	2	2		PFM/FM	SVAL
CRPV0200	MPFRPC00	3	3		FS	SVAL
CRPV0200	MEMRPC000002	0	0		EM	SVAL
CRPV0200	MEMRPC000002	1	1		QM	SVAL
CRPV0200	MEMRPC000002	2	2		PFM/FM	SVAL
CRPV0200	DEFAULT	0	0		EM	SVAL
CRPV0200	MEMRPC000002	3	3		FS	SVAL
CRPV0200	DEFAULT	2	2		PFM/FM	SVAL
CRPV1011	DEFAULT	3	3		SID4	SVAL
CRPV1011	MPFRPC00	4	4		SID5	SVAL
CRPV1011	MPFRPC00	3	3		SID4	SVAL
CRPV1011	MPFRPC00	2	2		Burst	SVAL
CRPV1011	MPFRPC00	1	1		Normal	SVAL
CRPV1011	DEFAULT	4	4		SID5	SVAL
CRPV1011	DEFAULT	2	2		Burst	SVAL
CRPV1011	DEFAULT	1	1		Normal	SVAL
CRPV1011	DEFAULT	0	0		Minimal	SVAL
CRPV1011	MPFRPC00	0	0		Minimal	SVAL
CRPV1011	MEMRPC000002	4	4		SID5	SVAL
CRPV1011	MEMRPC000002	0	0		Minimal	SVAL
CRPV1011	MEMRPC000002	1	1		Normal	SVAL
CRPV1011	MEMRPC000002	2	2		Burst	SVAL
CRPV1011	MEMRPC000002	3	3		SID4	SVAL
CRPV1121	DEFAULT	0	0		DataType0	SVAL
CRPV1121	DEFAULT	1	1		DataType1	SVAL
CRPV1121	DEFAULT	2	2		DataType2	SVAL
CRPV1121	MEMRPC000002	0	0		DataType0	SVAL
CRPV1121	MEMRPC000002	1	1		DataType1	SVAL
CRPV1121	MEMRPC000002	2	2		DataType2	SVAL
CRPV1126	DEFAULT	1	1		Done	SVAL
CRPV1126	MPFRPC00	1	1		Done	SVAL
CRPV1126	MPFRPC00	0	0		Inactive	SVAL
CRPV1126	DEFAULT	0	0		Inactive	SVAL
CRPV1126	MEMRPC000002	0	0		Inactive	SVAL
CRPV1126	MEMRPC000002	1	1		Done	SVAL
CRPV1127	MPFRPC00	0	0		NotAccessibl	SVAL
CRPV1127	MPFRPC00	1	1		Ready	SVAL
CRPV1127	DEFAULT	1	1		Ready	SVAL
CRPV1127	DEFAULT	0	0		NotAccessibl	SVAL
CRPV1127	MEMRPC000002	0	0		NotAccessibl	SVAL
CRPV1127	MEMRPC000002	1	1		Ready	SVAL
CRPV120D	DEFAULT	1	1		Divided	SVAL
CRPV120D	MPFRPC00	3	3		Unused	SVAL
CRPV120D	MPFRPC00	1	1		Divided	SVAL
CRPV120D	MPFRPC00	0	0		Safe	SVAL
CRPV120D	DEFAULT	0	0		Safe	SVAL
CRPV120D	DEFAULT	2	2		Armed	SVAL
CRPV120D	MPFRPC00	2	2		Armed	SVAL
CRPV120D	MEMRPC000002	0	0		Safe	SVAL
CRPV120D	MEMRPC000002	1	1		Divided	SVAL
CRPV120D	MEMRPC000002	2	2		Armed	SVAL
CRPV120D	MEMRPC000002	3	3		Unused	SVAL
CRPV120D	DEFAULT	3	3		Unused	SVAL
CRPV1227	MPFRPC00	2	2		OscFreq / 8	SVAL
CRPV1227	DEFAULT	0	0		OscFreq / 2	SVAL
CRPV1227	MPFRPC00	3	3		OscFreq / 16	SVAL
CRPV1227	DEFAULT	1	1		OscFreq / 4	SVAL
CRPV1227	DEFAULT	2	2		OscFreq / 8	SVAL
CRPV1227	DEFAULT	3	3		OscFreq / 16	SVAL
CRPV1227	MPFRPC00	0	0		OscFreq / 2	SVAL
CRPV1227	MEMRPC000002	3	3		OscFreq / 16	SVAL
CRPV1227	MPFRPC00	1	1		OscFreq / 4	SVAL
CRPV1227	MEMRPC000002	1	1		OscFreq / 4	SVAL
CRPV1227	MEMRPC000002	2	2		OscFreq / 8	SVAL
CRPV1227	MEMRPC000002	0	0		OscFreq / 2	SVAL
CRPV1301	DEFAULT	1	1		Type1	SVAL
CRPV1301	MEMRPC000002	2	2		Type2	SVAL
CRPV1301	MEMRPC000002	1	1		Type1	SVAL
CRPV1301	MEMRPC000002	0	0		Type0	SVAL
CRPV1301	MPFRPC00	1	1		Type1	SVAL
CRPV1301	MPFRPC00	2	2		Type2	SVAL

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPV1301	DEFAULT	0	0		Type0	SVAL
CRPV1301	DEFAULT	2	2		Type2	SVAL
CRPV1301	MPFRPC00	0	0		Type0	SVAL
CRPV1303	MEMRPC000002	1	1		Safe	SVAL
CRPV1303	MEMRPC000002	3	3		Sci Survey	SVAL
CRPV1303	DEFAULT	9	9		HVSCI	SVAL
CRPV1303	MEMRPC000002	2	2		HV Turn-On	SVAL
CRPV1303	DEFAULT	3	3		PAUSE	SVAL
CRPV1303	MEMRPC000002	4	4		Sci Interest	SVAL
CRPV1303	MEMRPC000002	8	8		EQM	SVAL
CRPV1303	MEMRPC000002	0	0		Initializatn	SVAL
CRPV1303	DEFAULT	4	4		RESUME	SVAL
CRPV1303	DEFAULT	10	10		LVENG	SVAL
CRPV1303	MPFRPC00	3	3		PAUSE	SVAL
CRPV1303	MPFRPC00	4	4		RESUME	SVAL
CRPV1303	MPFRPC00	8	8		LVSCI	SVAL
CRPV1303	MPFRPC00	9	9		HVSCI	SVAL
CRPV1303	MPFRPC00	10	10		LVENG	SVAL
CRPV1303	DEFAULT	8	8		LVSCI	SVAL
CRPV1304	MPFRPC00	1	1		Normal	SVAL
CRPV1304	DEFAULT	0	0		Minimal	SVAL
CRPV1304	DEFAULT	1	1		Normal	SVAL
CRPV1304	DEFAULT	2	2		Burst	SVAL
CRPV1304	DEFAULT	3	3		SID4	SVAL
CRPV1304	DEFAULT	4	4		SID5	SVAL
CRPV1304	MPFRPC00	2	2		Burst	SVAL
CRPV1304	MEMRPC000002	1	1		Normal	SVAL
CRPV1304	MEMRPC000002	0	0		Minimal	SVAL
CRPV1304	MEMRPC000002	2	2		Burst	SVAL
CRPV1304	MEMRPC000002	3	3		SID4	SVAL
CRPV1304	MEMRPC000002	4	4		SID5	SVAL
CRPV1304	MPFRPC00	3	3		SID4	SVAL
CRPV1304	MPFRPC00	0	0		Minimal	SVAL
CRPV1304	MPFRPC00	4	4		SID5	SVAL
CRPV1315	MEMRPC000002	3	3		ExcessOfData	SVAL
CRPV1315	MPFRPC00	1	1		Some Data	SVAL
CRPV1315	MEMRPC000002	0	0		No Data	SVAL
CRPV1315	MEMRPC000002	1	1		Some Data	SVAL
CRPV1315	MPFRPC00	0	0		No Data	SVAL
CRPV1315	MPFRPC00	3	3		ExcessOfData	SVAL
CRPV1315	DEFAULT	3	3		ExcessOfData	SVAL
CRPV1315	DEFAULT	1	1		Some Data	SVAL
CRPV1315	DEFAULT	0	0		No Data	SVAL
CRPV131F	MPFRPC00	7	7		Proto	SVAL
CRPV131F	DEFAULT	0	0		Flight	SVAL
CRPV131F	DEFAULT	6	6		EQM	SVAL
CRPV131F	DEFAULT	1	1		Flight Spare	SVAL
CRPV131F	MPFRPC00	1	1		Flight Spare	SVAL
CRPV131F	MPFRPC00	0	0		Flight	SVAL
CRPV131F	DEFAULT	7	7		Proto	SVAL
CRPV131F	MPFRPC00	6	6		EQM	SVAL
CRPV131F	MEMRPC000002	0	0		Flight	SVAL
CRPV131F	MEMRPC000002	7	7		EQM	SVAL
CRPV131F	MEMRPC000002	6	6		Proto	SVAL
CRPV131F	MEMRPC000002	1	1		Flight Spare	SVAL
CRPV1321	MEMRPC000002	0	0		Type0	SVAL
CRPV1321	MPFRPC00	2	2		Type2	SVAL
CRPV1321	MEMRPC000002	2	2		Type2	SVAL
CRPV1321	MPFRPC00	1	1		Type1	SVAL
CRPV1321	MPFRPC00	0	0		Type0	SVAL
CRPV1321	DEFAULT	2	2		Type2	SVAL
CRPV1321	DEFAULT	1	1		Type1	SVAL
CRPV1321	DEFAULT	0	0		Type0	SVAL
CRPV1321	MEMRPC000002	1	1		Type1	SVAL
CRPV132A	DEFAULT	3	3		EndArdCrryOK	SVAL
CRPV132A	MEMRPC000002	3	3		EndArdCrryOK	SVAL
CRPV132A	MEMRPC000002	2	2		XOR ERR	SVAL
CRPV132A	MEMRPC000002	1	1		XOR OK	SVAL
CRPV132A	MEMRPC000002	0	0		No Status	SVAL
CRPV132A	DEFAULT	4	4		EndArdCryERR	SVAL
CRPV132A	DEFAULT	2	2		XOR ERR	SVAL
CRPV132A	DEFAULT	1	1		XOR OK	SVAL
CRPV132A	DEFAULT	0	0		No Status	SVAL
CRPV132A	MEMRPC000002	4	4		EndArdCryERR	SVAL
CRPV132D	MPFRPC00	98	98		SftyThrshION	SVAL
CRPV132D	DEFAULT	49	49		HV-DEF-EN	SVAL
CRPV132D	DEFAULT	1	1		CommRateMd	SVAL
CRPV132D	DEFAULT	16	16		DATA-ACQ-EN	SVAL
CRPV132D	DEFAULT	17	17		DataAcqTable	SVAL

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPV132D	DEFAULT	19	19		DataGenerEN	SVAL
CRPV132D	DEFAULT	48	48		HV-ADJ	SVAL
CRPV132D	MEMRPC000002	66	66		InstrDiagntc	SVAL
CRPV132D	MEMRPC000002	33	33		EEPROM-WRITE	SVAL
CRPV132D	MEMRPC000002	48	48		HV-ADJ	SVAL
CRPV132D	MEMRPC000002	49	49		HV-DEF-EN	SVAL
CRPV132D	MEMRPC000002	50	50		HvElcMcpAdj	SVAL
CRPV132D	MEMRPC000002	51	51		HV-ElcMcp-EN	SVAL
CRPV132D	MEMRPC000002	52	52		HV-ESA-ADJ	SVAL
CRPV132D	MEMRPC000002	53	53		HV-ESA-EN	SVAL
CRPV132D	MEMRPC000002	54	54		HvIonMcp-ADJ	SVAL
CRPV132D	MEMRPC000002	67	67		InstrProgMd	SVAL
CRPV132D	MEMRPC000002	56	56		HV-EN	SVAL
CRPV132D	DEFAULT	50	50		HvElcMcpAdj	SVAL
CRPV132D	MEMRPC000002	64	64		InstrChecksm	SVAL
CRPV132D	MEMRPC000002	65	65		InstrClearSt	SVAL
CRPV132D	MPFRPC00	145	145		SEQ-END-ALL	SVAL
CRPV132D	MPFRPC00	144	144		SEQ-END	SVAL
CRPV132D	MPFRPC00	115	115		STIM-ION-EN	SVAL
CRPV132D	MPFRPC00	114	114		STIM-ION-ADJ	SVAL
CRPV132D	MPFRPC00	113	113		STIM-ELC-EN	SVAL
CRPV132D	MPFRPC00	112	112		STIM-ELC-ADJ	SVAL
CRPV132D	MEMRPC000002	55	55		HvIonMcp-EN	SVAL
CRPV132D	MEMRPC000002	113	113		STIM-ELC-EN	SVAL
CRPV132D	MEMRPC000002	68	68		INSTR-RESET	SVAL
CRPV132D	MEMRPC000002	69	69		InstWtchgCtl	SVAL
CRPV132D	MEMRPC000002	80	80		MEM-BLOCK	SVAL
CRPV132D	MEMRPC000002	81	81		MEM-COPY	SVAL
CRPV132D	MEMRPC000002	82	82		MEM-GO	SVAL
CRPV132D	MEMRPC000002	83	83		MEM-WRITE	SVAL
CRPV132D	MEMRPC000002	96	96		SafetyAmbSet	SVAL
CRPV132D	MEMRPC000002	97	97		SftyThrshElc	SVAL
CRPV132D	MEMRPC000002	19	19		DataGenerEN	SVAL
CRPV132D	MEMRPC000002	112	112		STIM-ELC-ADJ	SVAL
CRPV132D	MEMRPC000002	18	18		DATA-FORM	SVAL
CRPV132D	MEMRPC000002	114	114		STIM-ION-ADJ	SVAL
CRPV132D	MEMRPC000002	115	115		STIM-ION-EN	SVAL
CRPV132D	MEMRPC000002	128	128		SCI6-EN	SVAL
CRPV132D	MEMRPC000002	129	129		SCI6-MRO	SVAL
CRPV132D	MEMRPC000002	1	1		CommRateMd	SVAL
CRPV132D	MEMRPC000002	16	16		DATA-ACQ-EN	SVAL
CRPV132D	MPFRPC00	96	96		SafetyAmbSet	SVAL
CRPV132D	MEMRPC000002	17	17		DataAcqPARM	SVAL
CRPV132D	MPFRPC00	82	82		MEM-GO	SVAL
CRPV132D	MEMRPC000002	98	98		SftyThrshION	SVAL
CRPV132D	DEFAULT	69	69		InstWtchgCtl	SVAL
CRPV132D	MPFRPC00	97	97		SftyThrshElc	SVAL
CRPV132D	DEFAULT	114	114		STIM-ION-ADJ	SVAL
CRPV132D	DEFAULT	113	113		STIM-ELC-EN	SVAL
CRPV132D	DEFAULT	112	112		STIM-ELC-ADJ	SVAL
CRPV132D	DEFAULT	98	98		SftyThrshION	SVAL
CRPV132D	DEFAULT	97	97		SftyThrshElc	SVAL
CRPV132D	DEFAULT	96	96		SafetyAmbSet	SVAL
CRPV132D	DEFAULT	83	83		MEM-WRITE	SVAL
CRPV132D	DEFAULT	144	144		SEQ-END	SVAL
CRPV132D	DEFAULT	81	81		MEM-COPY	SVAL
CRPV132D	DEFAULT	145	145		SEQ-END-ALL	SVAL
CRPV132D	DEFAULT	68	68		INSTR-RESET	SVAL
CRPV132D	DEFAULT	67	67		InstrProgMd	SVAL
CRPV132D	DEFAULT	65	65		InstrClearSt	SVAL
CRPV132D	DEFAULT	56	56		HV-EN	SVAL
CRPV132D	DEFAULT	55	55		HvIonMcp-EN	SVAL
CRPV132D	DEFAULT	54	54		HvIonMcp-ADJ	SVAL
CRPV132D	DEFAULT	53	53		HV-ESA-EN	SVAL
CRPV132D	DEFAULT	52	52		HV-ESA-ADJ	SVAL
CRPV132D	DEFAULT	51	51		HV-ElcMcp-EN	SVAL
CRPV132D	DEFAULT	82	82		MEM-GO	SVAL
CRPV132D	MPFRPC00	52	52		HV-ESA-ADJ	SVAL
CRPV132D	MPFRPC00	146	146		SEQ-TRIG	SVAL
CRPV132D	MPFRPC00	81	81		MEM-COPY	SVAL
CRPV132D	MPFRPC00	69	69		InstWtchgCtl	SVAL
CRPV132D	MPFRPC00	68	68		INSTR-RESET	SVAL
CRPV132D	MPFRPC00	67	67		InstrProgMd	SVAL
CRPV132D	MPFRPC00	65	65		InstrClearSt	SVAL
CRPV132D	MPFRPC00	56	56		HV-EN	SVAL
CRPV132D	MPFRPC00	55	55		HvIonMcp-EN	SVAL
CRPV132D	DEFAULT	115	115		STIM-ION-EN	SVAL
CRPV132D	MPFRPC00	53	53		HV-ESA-EN	SVAL
CRPV132D	MPFRPC00	83	83		MEM-WRITE	SVAL

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPV132D	MPFRPC00	51	51		HV-ElcMcp-EN	SVAL
CRPV132D	MPFRPC00	50	50		HvElcMcpAdj	SVAL
CRPV132D	MPFRPC00	49	49		HV-DEF-EN	SVAL
CRPV132D	MPFRPC00	48	48		HV-ADJ	SVAL
CRPV132D	MPFRPC00	19	19		DataGenerEN	SVAL
CRPV132D	MPFRPC00	17	17		DataAcqTable	SVAL
CRPV132D	MPFRPC00	16	16		DATA-ACQ-EN	SVAL
CRPV132D	MPFRPC00	1	1		CommRateMd	SVAL
CRPV132D	DEFAULT	146	146		SEQ-TRIG	SVAL
CRPV132D	MPFRPC00	54	54		HvIonMcp-ADJ	SVAL
CRPV132E	MEMRPC000002	1	1		ACTIVE	SVAL
CRPV132E	DEFAULT	0	0		INACTIVE	SVAL
CRPV132E	MPFRPC00	0	0		INACTIVE	SVAL
CRPV132E	MPFRPC00	1	1		ACTIVE	SVAL
CRPV132E	MEMRPC000002	0	0		INACTIVE	SVAL
CRPV132E	DEFAULT	1	1		ACTIVE	SVAL
CRPV132F	DEFAULT	6	6		Group 6	SVAL
CRPV132F	MEMRPC000002	6	6		Group 6	SVAL
CRPV132F	DEFAULT	10	10		Unused	SVAL
CRPV132F	DEFAULT	9	9		Unused	SVAL
CRPV132F	DEFAULT	7	7		Unused	SVAL
CRPV132F	DEFAULT	5	5		Group 5	SVAL
CRPV132F	DEFAULT	4	4		Group 4	SVAL
CRPV132F	DEFAULT	3	3		Group 3	SVAL
CRPV132F	DEFAULT	2	2		Group 2	SVAL
CRPV132F	DEFAULT	1	1		Group 1	SVAL
CRPV132F	DEFAULT	0	0		Group 0	SVAL
CRPV132F	DEFAULT	8	8		Unused	SVAL
CRPV132F	MEMRPC000002	0	0		Group 0	SVAL
CRPV132F	MEMRPC000002	9	9		Unused	SVAL
CRPV132F	MEMRPC000002	8	8		Unused	SVAL
CRPV132F	MEMRPC000002	7	7		Unused	SVAL
CRPV132F	MEMRPC000002	10	10		Unused	SVAL
CRPV132F	MEMRPC000002	5	5		Group 5	SVAL
CRPV132F	MEMRPC000002	3	3		Group 3	SVAL
CRPV132F	MEMRPC000002	4	4		Group 4	SVAL
CRPV132F	MEMRPC000002	1	1		Group 1	SVAL
CRPV132F	DEFAULT	15	15		Unused	SVAL
CRPV132F	DEFAULT	14	14		Unused	SVAL
CRPV132F	MEMRPC000002	14	14		Unused	SVAL
CRPV132F	MEMRPC000002	2	2		Group 2	SVAL
CRPV132F	MEMRPC000002	15	15		Unused	SVAL
CRPV132F	DEFAULT	13	13		Unused	SVAL
CRPV132F	MEMRPC000002	13	13		Unused	SVAL
CRPV132F	MEMRPC000002	12	12		Unused	SVAL
CRPV132F	MEMRPC000002	11	11		Unused	SVAL
CRPV132F	DEFAULT	11	11		Unused	SVAL
CRPV132F	DEFAULT	12	12		Unused	SVAL
CRPV1341	MEMRPC000002	1	1		Type1	SVAL
CRPV1341	MEMRPC000002	2	2		Type2	SVAL
CRPV1341	MPFRPC00	2	2		Type2	SVAL
CRPV1341	MPFRPC00	1	1		Type1	SVAL
CRPV1341	MPFRPC00	0	0		Type0	SVAL
CRPV1341	DEFAULT	2	2		Type2	SVAL
CRPV1341	DEFAULT	1	1		Type1	SVAL
CRPV1341	DEFAULT	0	0		Type0	SVAL
CRPV1341	MEMRPC000002	0	0		Type0	SVAL
CRPV1361	MPFRPC00	2	2		Type2	SVAL
CRPV1361	DEFAULT	1	1		Type1	SVAL
CRPV1361	DEFAULT	2	2		Type2	SVAL
CRPV1361	MPFRPC00	1	1		Type1	SVAL
CRPV1361	MPFRPC00	0	0		Type0	SVAL
CRPV1361	DEFAULT	0	0		Type0	SVAL
CRPV1361	MEMRPC000002	2	2		Type2	SVAL
CRPV1361	MEMRPC000002	1	1		Type1	SVAL
CRPV1361	MEMRPC000002	0	0		Type0	SVAL
CRPV1421	DEFAULT	0	0		SubSys0	SVAL
CRPV1421	MEMRPC000002	1	1		SubSys1	SVAL
CRPV1421	DEFAULT	1	1		SubSys1	SVAL
CRPV1421	MEMRPC000002	0	0		SubSys0	SVAL
CRPV1422	DEFAULT	1	1		Diag1	SVAL
CRPV1422	MEMRPC000002	5	5		Diag4	SVAL
CRPV1422	MEMRPC000002	4	4		Diag4	SVAL
CRPV1422	MEMRPC000002	3	3		Diag3	SVAL
CRPV1422	MEMRPC000002	2	2		Diag2	SVAL
CRPV1422	MEMRPC000002	1	1		Diag1	SVAL
CRPV1422	MEMRPC000002	0	0		Diag0	SVAL
CRPV1422	DEFAULT	5	5		Diag4	SVAL
CRPV1422	DEFAULT	4	4		Diag4	SVAL

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPV1422	DEFAULT	2	2		Diag2	SVAL
CRPV1422	DEFAULT	0	0		Diag0	SVAL
CRPV1422	DEFAULT	3	3		Diag3	SVAL
CRPV1431	MPFRPC00	0	0		LVSCI	SVAL
CRPV1431	MEMRPC000002	2	2		Mode2	SVAL
CRPV1431	MEMRPC000002	1	1		Mode1	SVAL
CRPV1431	MEMRPC000002	0	0		Mode0	SVAL
CRPV1431	MPFRPC00	2	2		LVENG	SVAL
CRPV1431	MPFRPC00	3	3		PAUSE	SVAL
CRPV1431	MPFRPC00	4	4		RESUME	SVAL
CRPV1431	DEFAULT	4	4		RESUME	SVAL
CRPV1431	DEFAULT	3	3		PAUSE	SVAL
CRPV1431	DEFAULT	2	2		LVENG	SVAL
CRPV1431	DEFAULT	1	1		HVSCI	SVAL
CRPV1431	DEFAULT	0	0		LVSCI	SVAL
CRPV1431	MPFRPC00	1	1		HVSCI	SVAL
CRPV1441	MEMRPC000002	305419896	305419896		MagicWord	SVAL
CRPV1441	DEFAULT	305419896	305419896		MagicWord	SVAL
CRPV1512	DEFAULT	2	2		Inc Pattern	SVAL
CRPV1512	DEFAULT	3	3		Dec Pattern	SVAL
CRPV1512	MPFRPC00	0	0		Zero Fill	SVAL
CRPV1512	MPFRPC00	1	1		0xFFFF Fill	SVAL
CRPV1512	MPFRPC00	2	2		Inc Pattern	SVAL
CRPV1512	MPFRPC00	3	3		Dec Pattern	SVAL
CRPV1512	DEFAULT	1	1		0xFFFF Fill	SVAL
CRPV1512	DEFAULT	0	0		Zero Fill	SVAL
CRPV1514	MPFRPC00	33	33		Dp no of wds	SVAL
CRPV1514	MPFRPC00	3	3		Memory ID	SVAL
CRPV1514	MPFRPC00	4	4		No of Blocks	SVAL
CRPV1514	MPFRPC00	5	5		No of LP Err	SVAL
CRPV1514	MPFRPC00	6	6		Checksum	SVAL
CRPV1514	MPFRPC00	7	7		Page	SVAL
CRPV1514	MPFRPC00	8	8		Pg Bound	SVAL
CRPV1514	MPFRPC00	9	9		No of Words	SVAL
CRPV1514	MPFRPC00	10	10		Not In LVENG	SVAL
CRPV1514	MPFRPC00	2	2		No of LPs	SVAL
CRPV1514	MPFRPC00	18	18		Ld wds LP Er	SVAL
CRPV1514	DEFAULT	64	64		ACTP Pg Pro	SVAL
CRPV1514	MPFRPC00	64	64		ACTP Pg Pro	SVAL
CRPV1514	MPFRPC00	65	65		ACTP Cksum	SVAL
CRPV1514	MPFRPC00	66	66		ACTP EE Wri	SVAL
CRPV1514	MPFRPC00	17	17		Ld no of wds	SVAL
CRPV1514	DEFAULT	9	9		No of Words	SVAL
CRPV1514	DEFAULT	1	1		Opcode	SVAL
CRPV1514	DEFAULT	2	2		No of LPs	SVAL
CRPV1514	DEFAULT	3	3		Memory ID	SVAL
CRPV1514	DEFAULT	4	4		No of Blocks	SVAL
CRPV1514	DEFAULT	5	5		No of LP Err	SVAL
CRPV1514	DEFAULT	6	6		Checksum	SVAL
CRPV1514	DEFAULT	66	66		ACTP EE Wri	SVAL
CRPV1514	DEFAULT	8	8		Pg Bound	SVAL
CRPV1514	MPFRPC00	1	1		Opcode	SVAL
CRPV1514	DEFAULT	10	10		Not In LVENG	SVAL
CRPV1514	DEFAULT	17	17		Ld no of wds	SVAL
CRPV1514	DEFAULT	18	18		Ld wds LP Er	SVAL
CRPV1514	DEFAULT	33	33		Dp no of wds	SVAL
CRPV1514	DEFAULT	65	65		ACTP Cksum	SVAL
CRPV1514	DEFAULT	7	7		Page	SVAL
CRPV1516	DEFAULT	67	67		EE ACTP OK	SVAL
CRPV1516	MPFRPC00	67	67		EE ACTP OK	SVAL
CRPV1538	DEFAULT	2	2		Bad Checksum	SVAL
CRPV1538	DEFAULT	3	3		Bad Opcode	SVAL
CRPV1538	MPFRPC00	1	1		Bad Seq No	SVAL
CRPV1538	MPFRPC00	2	2		Bad Checksum	SVAL
CRPV1538	MPFRPC00	3	3		Bad Opcode	SVAL
CRPV1538	DEFAULT	1	1		Bad Seq No	SVAL
CRPV1811	DEFAULT	0	0		MemArea1	SVAL
CRPV1811	DEFAULT	3	3		MemArea4	SVAL
CRPV1811	MEMRPC000002	3	3		MemArea4	SVAL
CRPV1811	MEMRPC000002	0	0		MemArea1	SVAL
CRPV1811	MEMRPC000002	2	2		MemArea3	SVAL
CRPV1811	DEFAULT	1	1		MemArea2	SVAL
CRPV1811	MEMRPC000002	1	1		MemArea2	SVAL
CRPV1811	DEFAULT	2	2		MemArea3	SVAL
CRPV2181	MEMRPC000002	0	0		Low	SVAL
CRPV2181	MEMRPC000002	1	1		High	SVAL
CRPV2181	MPFRPC00	1	1		High	SVAL
CRPV2181	MPFRPC00	0	0		Low	SVAL
CRPV2181	DEFAULT	1	1		High	SVAL

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPV2181	DEFAULT	0	0		Low	SVAL
CRPV2182	MEMRPC000002	1	1		Yes	SVAL
CRPV2182	MEMRPC000002	0	0		No	SVAL
CRPV2182	MPFRPC00	0	0		No	SVAL
CRPV2182	DEFAULT	1	1		Yes	SVAL
CRPV2182	DEFAULT	0	0		No	SVAL
CRPV2182	MPFRPC00	1	1		Yes	SVAL
CRPV2183	MEMRPC000002	0	0		Stepping	SVAL
CRPV2183	MEMRPC000002	1	1		Fixed	SVAL
CRPV2183	MPFRPC00	0	0		Stepping	SVAL
CRPV2183	DEFAULT	1	1		Fixed	SVAL
CRPV2183	DEFAULT	0	0		Stepping	SVAL
CRPV2183	MPFRPC00	1	1		Fixed	SVAL
CRPV2184	MEMRPC000002	1	1		Alternating	SVAL
CRPV2184	DEFAULT	0	0		Fixed	SVAL
CRPV2184	DEFAULT	1	1		Alternating	SVAL
CRPV2184	MEMRPC000002	0	0		Fixed	SVAL
CRPV2185	MPFRPC00	1	1		Enable	SVAL
CRPV2185	MEMRPC000002	0	0		Inhibit	SVAL
CRPV2185	MPFRPC00	0	0		Inhibit	SVAL
CRPV2185	DEFAULT	0	0		Inhibit	SVAL
CRPV2185	MEMRPC000002	1	1		Enable	SVAL
CRPV2185	DEFAULT	1	1		Enable	SVAL
CRPV2280	MEMRPC000002	0	0		Ok	SVAL
CRPV2280	MEMRPC000002	1	1		Invalid	SVAL
CRPV2280	MEMRPC000002	3	3		Erroneous	SVAL
CRPV2280	MPFRPC00	3	3		Erroneous	SVAL
CRPV2280	MPFRPC00	2	2		Out of range	SVAL
CRPV2280	MPFRPC00	1	1		Invalid	SVAL
CRPV2280	MPFRPC00	0	0		Ok	SVAL
CRPV2280	DEFAULT	3	3		Erroneous	SVAL
CRPV2280	DEFAULT	2	2		Out of range	SVAL
CRPV2280	DEFAULT	1	1		Invalid	SVAL
CRPV2280	DEFAULT	0	0		Ok	SVAL
CRPV2280	MEMRPC000002	2	2		Out of range	SVAL
CRPV2380	MPFRPC00	3	3		Cal	SVAL
CRPV2380	MEMRPC000002	1	1		Norm	SVAL
CRPV2380	MEMRPC000002	2	2		Burst	SVAL
CRPV2380	MEMRPC000002	3	3		Cal	SVAL
CRPV2380	MEMRPC000002	4	4		Spec	SVAL
CRPV2380	MEMRPC000002	5	5		Test	SVAL
CRPV2380	MPFRPC00	2	2		Burst	SVAL
CRPV2380	DEFAULT	0	0		Min	SVAL
CRPV2380	DEFAULT	1	1		Norm	SVAL
CRPV2380	DEFAULT	2	2		Burst	SVAL
CRPV2380	DEFAULT	3	3		Cal	SVAL
CRPV2380	DEFAULT	4	4		Spec	SVAL
CRPV2380	DEFAULT	5	5		Test	SVAL
CRPV2380	MPFRPC00	5	5		Test	SVAL
CRPV2380	MPFRPC00	1	1		Norm	SVAL
CRPV2380	MPFRPC00	4	4		Spec	SVAL
CRPV2380	MEMRPC000002	0	0		Min	SVAL
CRPV2380	MPFRPC00	0	0		Min	SVAL
CRPV2381	MEMRPC000002	4	4		Msis	SVAL
CRPV2381	MEMRPC000002	0	0		Idle	SVAL
CRPV2381	MEMRPC000002	1	1		Mmom	SVAL
CRPV2381	MEMRPC000002	2	2		Mspo	SVAL
CRPV2381	MEMRPC000002	3	3		Mmsp	SVAL
CRPV2381	MEMRPC000002	5	5		Mexm	SVAL
CRPV2381	MPFRPC00	35	35		Fake	SVAL
CRPV2381	MPFRPC00	34	34		Spc	SVAL
CRPV2381	MPFRPC00	33	33		Cal1	SVAL
CRPV2381	MPFRPC00	32	32		Test	SVAL
CRPV2381	MPFRPC00	31	31		Void	SVAL
CRPV2381	MPFRPC00	30	30		Void	SVAL
CRPV2381	MEMRPC000002	6	6		Void	SVAL
CRPV2381	MPFRPC00	28	28		Exm4	SVAL
CRPV2381	MEMRPC000002	19	19		Har3	SVAL
CRPV2381	MPFRPC00	27	27		Exm3	SVAL
CRPV2381	MPFRPC00	26	26		Exm2	SVAL
CRPV2381	MPFRPC00	29	29		Exm5	SVAL
CRPV2381	MEMRPC000002	21	21		Har5	SVAL
CRPV2381	MEMRPC000002	35	35		Fake	SVAL
CRPV2381	MEMRPC000002	34	34		Spc	SVAL
CRPV2381	MEMRPC000002	33	33		Cal1	SVAL
CRPV2381	MEMRPC000002	32	32		Test	SVAL
CRPV2381	MEMRPC000002	31	31		Void	SVAL
CRPV2381	MEMRPC000002	30	30		Void	SVAL
CRPV2381	MEMRPC000002	29	29		Exm5	SVAL

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPV2381	MEMRPC000002	28	28		Exm4	SVAL
CRPV2381	MEMRPC000002	27	27		Exm3	SVAL
CRPV2381	MEMRPC000002	26	26		Exm2	SVAL
CRPV2381	MEMRPC000002	25	25		Exm1	SVAL
CRPV2381	MEMRPC000002	24	24		Exm0	SVAL
CRPV2381	MEMRPC000002	17	17		Har1	SVAL
CRPV2381	MEMRPC000002	22	22		Void	SVAL
CRPV2381	MEMRPC000002	7	7		Void	SVAL
CRPV2381	MEMRPC000002	20	20		Har4	SVAL
CRPV2381	MPFRPC00	16	16		Har0	SVAL
CRPV2381	MEMRPC000002	18	18		Har2	SVAL
CRPV2381	MPFRPC00	25	25		Exm1	SVAL
CRPV2381	MEMRPC000002	16	16		Har0	SVAL
CRPV2381	MEMRPC000002	15	15		Void	SVAL
CRPV2381	MEMRPC000002	14	14		Void	SVAL
CRPV2381	MEMRPC000002	13	13		Nrm5	SVAL
CRPV2381	MEMRPC000002	12	12		Nrm4	SVAL
CRPV2381	MEMRPC000002	11	11		Nrm3	SVAL
CRPV2381	MEMRPC000002	10	10		Nrm2	SVAL
CRPV2381	MEMRPC000002	9	9		Nrm1	SVAL
CRPV2381	MEMRPC000002	8	8		Nrm0	SVAL
CRPV2381	MEMRPC000002	23	23		Void	SVAL
CRPV2381	DEFAULT	24	24		Exm0	SVAL
CRPV2381	DEFAULT	17	17		Har1	SVAL
CRPV2381	DEFAULT	18	18		Har2	SVAL
CRPV2381	DEFAULT	19	19		Har3	SVAL
CRPV2381	DEFAULT	20	20		Har4	SVAL
CRPV2381	DEFAULT	21	21		Har5	SVAL
CRPV2381	DEFAULT	31	31		Void	SVAL
CRPV2381	DEFAULT	23	23		Void	SVAL
CRPV2381	DEFAULT	14	14		Void	SVAL
CRPV2381	DEFAULT	25	25		Exm1	SVAL
CRPV2381	DEFAULT	26	26		Exm2	SVAL
CRPV2381	DEFAULT	27	27		Exm3	SVAL
CRPV2381	DEFAULT	28	28		Exm4	SVAL
CRPV2381	DEFAULT	29	29		Exm5	SVAL
CRPV2381	MPFRPC00	18	18		Har2	SVAL
CRPV2381	DEFAULT	22	22		Void	SVAL
CRPV2381	DEFAULT	8	8		Nrm0	SVAL
CRPV2381	DEFAULT	0	0		Idle	SVAL
CRPV2381	DEFAULT	1	1		Mmom	SVAL
CRPV2381	DEFAULT	2	2		Mspo	SVAL
CRPV2381	DEFAULT	3	3		Mmsp	SVAL
CRPV2381	DEFAULT	4	4		Msis	SVAL
CRPV2381	DEFAULT	5	5		Mexm	SVAL
CRPV2381	DEFAULT	16	16		Har0	SVAL
CRPV2381	DEFAULT	7	7		Void	SVAL
CRPV2381	DEFAULT	15	15		Void	SVAL
CRPV2381	DEFAULT	9	9		Nrm1	SVAL
CRPV2381	DEFAULT	10	10		Nrm2	SVAL
CRPV2381	DEFAULT	11	11		Nrm3	SVAL
CRPV2381	DEFAULT	12	12		Nrm4	SVAL
CRPV2381	DEFAULT	13	13		Nrm5	SVAL
CRPV2381	DEFAULT	32	32		Test	SVAL
CRPV2381	DEFAULT	6	6		Void	SVAL
CRPV2381	MPFRPC00	12	12		Nrm4	SVAL
CRPV2381	MPFRPC00	23	23		Void	SVAL
CRPV2381	MPFRPC00	22	22		Void	SVAL
CRPV2381	MPFRPC00	21	21		Har5	SVAL
CRPV2381	MPFRPC00	20	20		Har4	SVAL
CRPV2381	MPFRPC00	19	19		Har3	SVAL
CRPV2381	MPFRPC00	17	17		Har1	SVAL
CRPV2381	MPFRPC00	15	15		Void	SVAL
CRPV2381	MPFRPC00	14	14		Void	SVAL
CRPV2381	DEFAULT	30	30		Void	SVAL
CRPV2381	MPFRPC00	13	13		Nrm5	SVAL
CRPV2381	MPFRPC00	24	24		Exm0	SVAL
CRPV2381	MPFRPC00	11	11		Nrm3	SVAL
CRPV2381	MPFRPC00	10	10		Nrm2	SVAL
CRPV2381	MPFRPC00	3	3		Mmsp	SVAL
CRPV2381	DEFAULT	33	33		Cal1	SVAL
CRPV2381	DEFAULT	34	34		Spc	SVAL
CRPV2381	DEFAULT	35	35		Fake	SVAL
CRPV2381	MPFRPC00	0	0		Idle	SVAL
CRPV2381	MPFRPC00	1	1		Mmom	SVAL
CRPV2381	MPFRPC00	2	2		Mspo	SVAL
CRPV2381	MPFRPC00	9	9		Nrm1	SVAL
CRPV2381	MPFRPC00	4	4		Msis	SVAL
CRPV2381	MPFRPC00	5	5		Mexm	SVAL

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPV2381	MPFRPC00	6	6		Void	SVAL
CRPV2381	MPFRPC00	7	7		Void	SVAL
CRPV2381	MPFRPC00	8	8		Nrm0	SVAL
CRPV3100	DEFAULT	0	0		DISABLED	SVAL
CRPV3100	DEFAULT	1	1		ENABLED	SVAL
CRPV3100	MPFRPC00	1	1		ENABLED	SVAL
CRPV3100	MEMRPC000002	1	1		ENABLED	SVAL
CRPV3100	MPFRPC00	0	0		DISABLED	SVAL
CRPV3100	MEMRPC000002	0	0		DISABLED	SVAL
CRPV3101	DEFAULT	1	1		ALIVE	SVAL
CRPV3101	DEFAULT	0	0		DEAD	SVAL
CRPV3101	MEMRPC000002	0	0		DEAD	SVAL
CRPV3101	MPFRPC00	1	1		ALIVE	SVAL
CRPV3101	MPFRPC00	0	0		DEAD	SVAL
CRPV3101	MEMRPC000002	1	1		ALIVE	SVAL
CRPV3108	MEMRPC000002	1	1		PHASE 2	SVAL
CRPV3108	DEFAULT	1	1		PHASE 2	SVAL
CRPV3108	MEMRPC000002	0	0		PHASE 1	SVAL
CRPV3108	DEFAULT	0	0		PHASE 1	SVAL
CRPV3109	DEFAULT	0	0		NORMAL	SVAL
CRPV3109	DEFAULT	1	1		MIXED	SVAL
CRPV3109	MEMRPC000002	0	0		NORMAL	SVAL
CRPV3109	MEMRPC000002	1	1		MIXED	SVAL
CRPV3300	MPFRPC00	1	1		Macro 1	SVAL
CRPV3300	MPFRPC00	2	2		Macro 2	SVAL
CRPV3300	MPFRPC00	3	3		Macro 3	SVAL
CRPV3300	MPFRPC00	4	4		Macro 4	SVAL
CRPV3300	MPFRPC00	6	6		Macro 6	SVAL
CRPV3300	DEFAULT	2	2		Macro 2	SVAL
CRPV3300	MPFRPC00	5	5		Macro 5	SVAL
CRPV3300	MPFRPC00	0	0		Macro 0	SVAL
CRPV3300	DEFAULT	7	7		Macro 7	SVAL
CRPV3300	DEFAULT	6	6		Macro 6	SVAL
CRPV3300	DEFAULT	5	5		Macro 5	SVAL
CRPV3300	MPFRPC00	7	7		Macro 7	SVAL
CRPV3300	DEFAULT	3	3		Macro 3	SVAL
CRPV3300	DEFAULT	1	1		Macro 1	SVAL
CRPV3300	DEFAULT	0	0		Macro 0	SVAL
CRPV3300	DEFAULT	4	4		Macro 4	SVAL
CRPV3303	DEFAULT	5	5		Macro 5	SVAL
CRPV3303	MPFRPC00	3	3		Macro 3	SVAL
CRPV3303	MPFRPC00	7	7		Macro 7	SVAL
CRPV3303	MPFRPC00	6	6		Macro 6	SVAL
CRPV3303	DEFAULT	3	3		Macro 3	SVAL
CRPV3303	MPFRPC00	4	4		Macro 4	SVAL
CRPV3303	DEFAULT	0	0		Macro 0	SVAL
CRPV3303	MPFRPC00	2	2		Macro 2	SVAL
CRPV3303	MPFRPC00	1	1		Macro 1	SVAL
CRPV3303	MPFRPC00	0	0		Macro 0	SVAL
CRPV3303	DEFAULT	7	7		Macro 7	SVAL
CRPV3303	DEFAULT	6	6		Macro 6	SVAL
CRPV3303	DEFAULT	4	4		Macro 4	SVAL
CRPV3303	DEFAULT	2	2		Macro 2	SVAL
CRPV3303	DEFAULT	1	1		Macro 1	SVAL
CRPV3303	MPFRPC00	5	5		Macro 5	SVAL
CRPV3307	DEFAULT	0	0		ENABLED	SVAL
CRPV3307	DEFAULT	1	1		DISABLED	SVAL
CRPV3307	MPFRPC00	0	0		ENABLED	SVAL
CRPV3307	MPFRPC00	1	1		DISABLED	SVAL
CRPV3310	MPFRPC00	1	1		Mix LDL	Ph0
CRPV3310	DEFAULT	0	0		No LDL	SVAL
CRPV3310	DEFAULT	1	1		Mix LDL	Ph0
CRPV3310	DEFAULT	2	2		Normal LDL	SVAL
CRPV3310	DEFAULT	3	3		Mix LDL	Ph1
CRPV3310	MPFRPC00	0	0		No LDL	SVAL
CRPV3310	MPFRPC00	2	2		Normal LDL	SVAL
CRPV3310	MPFRPC00	3	3		Mix LDL	Ph1
CRPV3318	MPFRPC00	0	0		+/- 5V	SVAL
CRPV3318	MPFRPC00	1	1		+/- 32V	SVAL
CRPV3318	DEFAULT	1	1		+/- 32V	SVAL
CRPV3318	DEFAULT	0	0		+/- 5V	SVAL
CRPV3319	DEFAULT	1	1		+/- 32V	SVAL
CRPV3319	MPFRPC00	0	0		+/- 5V	SVAL
CRPV3319	MPFRPC00	1	1		+/- 32V	SVAL
CRPV3319	DEFAULT	0	0		+/- 5V	SVAL
CRPV331A	MPFRPC00	1	1		E-Field	SVAL
CRPV331A	DEFAULT	0	0		Density	SVAL
CRPV331A	DEFAULT	1	1		E-Field	SVAL
CRPV331A	MPFRPC00	0	0		Density	SVAL

CALV_CALC_NAME	CALV_MODL_MODEL	XVALUE	XVALUE_HIGH	YVALUE	YDIGTEXT	CALC_CALTYPE
CRPV331B	MPFRPC00	0	0		Density	SVAL
CRPV331B	MPFRPC00	1	1		E-Field	SVAL
CRPV331B	DEFAULT	0	0		Density	SVAL
CRPV331B	DEFAULT	1	1		E-Field	SVAL
CRPV331C	DEFAULT	0	0		Density	SVAL
CRPV331C	DEFAULT	1	1		E-Field	SVAL
CRPV331C	MPFRPC00	0	0		Density	SVAL
CRPV331C	MPFRPC00	1	1		E-Field	SVAL
CRPV331D	MPFRPC00	0	0		Density	SVAL
CRPV331D	MPFRPC00	1	1		E-Field	SVAL
CRPV331D	DEFAULT	1	1		E-Field	SVAL
CRPV331D	DEFAULT	0	0		Density	SVAL
CRPV331E	DEFAULT	1	1		E-Field	SVAL
CRPV331E	MPFRPC00	0	0		Density	SVAL
CRPV331E	MPFRPC00	1	1		E-Field	SVAL
CRPV331E	DEFAULT	0	0		Density	SVAL
CRPV331F	MPFRPC00	0	0		Density	SVAL
CRPV331F	DEFAULT	0	0		Density	SVAL
CRPV331F	DEFAULT	1	1		E-Field	SVAL
CRPV331F	MPFRPC00	1	1		E-Field	SVAL
CRPV3320	MPFRPC00	1	1		LAP	SVAL
CRPV3320	MPFRPC00	0	0		MIP	SVAL
CRPV3320	DEFAULT	1	1		LAP	SVAL
CRPV3320	DEFAULT	0	0		MIP	SVAL
CRPV3321	MPFRPC00	1	1		ON	SVAL
CRPV3321	DEFAULT	1	1		ON	SVAL
CRPV3321	MPFRPC00	0	0		OFF	SVAL
CRPV3321	DEFAULT	0	0		OFF	SVAL
CRPV3322	MPFRPC00	1	1		Transmitter	SVAL
CRPV3322	MPFRPC00	0	0		Analog input	SVAL
CRPV3322	DEFAULT	0	0		Analog input	SVAL
CRPV3322	DEFAULT	1	1		Transmitter	SVAL
CRPV3323	MPFRPC00	0	0		E strat Bias	SVAL
CRPV3323	DEFAULT	3	3		Den gain 1	SVAL
CRPV3323	MPFRPC00	3	3		Den gain 1	SVAL
CRPV3323	MPFRPC00	2	2		Den gain .05	SVAL
CRPV3323	DEFAULT	2	2		Den gain .05	SVAL
CRPV3323	DEFAULT	1	1		E strat Fl	SVAL
CRPV3323	DEFAULT	0	0		E strat Bias	SVAL
CRPV3323	MPFRPC00	1	1		E strat Fl	SVAL
CRPV3325	DEFAULT	0	0		Analog input	SVAL
CRPV3325	MPFRPC00	1	1		Transmitter	SVAL
CRPV3325	DEFAULT	1	1		Transmitter	SVAL
CRPV3325	MPFRPC00	0	0		Analog input	SVAL
CRPV3326	DEFAULT	0	0		E strat Bias	SVAL
CRPV3326	MPFRPC00	3	3		Den gain 1	SVAL
CRPV3326	MPFRPC00	2	2		Den gain .05	SVAL
CRPV3326	MPFRPC00	1	1		E strat Fl	SVAL
CRPV3326	MPFRPC00	0	0		E strat Bias	SVAL
CRPV3326	DEFAULT	3	3		Den gain 1	SVAL
CRPV3326	DEFAULT	1	1		E strat Fl	SVAL
CRPV3326	DEFAULT	2	2		Den gain .05	SVAL
CRPV4200	DEFAULT	0	0		MIP seq.	SVAL
CRPV4200	DEFAULT	1	1		LDLmx/MIPseq	SVAL
CRPV4200	DEFAULT	2	2		LDLnor/LDLsq	SVAL
CRPV4200	DEFAULT	3	3		LDLmx/LDLseq	SVAL
CRPV4200	MPFRPC00	0	0		MIP seq.	SVAL
CRPV4200	MPFRPC00	1	1		LDLmx/MIPseq	SVAL
CRPV4200	MPFRPC00	2	2		LDLnor/LDLsq	SVAL
CRPV4200	MEMRPC000002	3	3		LDLmx/LDLseq	SVAL
CRPV4200	MEMRPC000002	2	2		LDLnor/LDLsq	SVAL
CRPV4200	MEMRPC000002	0	0		MIP seq.	SVAL
CRPV4200	MPFRPC00	3	3		LDLmx/LDLseq	SVAL
CRPV4200	MEMRPC000002	1	1		LDLmx/MIPseq	SVAL
CRPV5100	MEMRPC000002	1	1		Inboard	SVAL
CRPV5100	MEMRPC000002	0	0		Outboard	SVAL
CRPV5100	DEFAULT	1	1		Inboard	SVAL
CRPV5100	MPFRPC00	0	0		Outboard	SVAL
CRPV5100	MPFRPC00	1	1		Inboard	SVAL
CRPV5100	DEFAULT	0	0		Outboard	SVAL

6.4.3 P_CALIBRATION

NAME	GCPASS	LNAME	CALTYPE	REVERSIBLE	PTIT_NAME	ADA_NAME
CRPP0001	N	Calib V to 0C YSI-44907 Therm	CPOI	Y	IRPRPC00	
CRPP0500	N	PSU Temperature	CPOI	Y	IRPRPC00	
CRPP0501	N	A/D +5V Level	CPOI	Y	IRPRPC00	
CRPP0502	N	A/D -5V Level	CPOI	Y	IRPRPC00	
CRPP0503	N	A/D +12V Level	CPOI	Y	IRPRPC00	
CRPP0504	N	A/D -12V Level	CPOI	Y	IRPRPC00	
CRPP0505	N	A/D +28V Level	CPOI	Y	IRPRPC00	
CRPP150A	N	ELC MCP Voltage	CPOI	Y	IRPRPC00	
CRPP150C	N	ION MCP Voltage	CPOI	Y	IRPRPC00	
CRPP150E	N	HVMON Voltage	CPOI	Y	IRPRPC00	
CRPP151A	N	Negative 5V Voltage	CPOI	Y	IRPRPC00	
CRPP151B	N	Positive 5V Voltage	CPOI	Y	IRPRPC00	
CRPP151C	N	Negative 12V Voltage	CPOI	Y	IRPRPC00	
CRPP151D	N	Positive 12V Voltage	CPOI	Y	IRPRPC00	
CRPP2001	N	Mcp 28V switch	CPOI	Y	IRPRPC00	
CRPP2002	N	Opto 28V switch	CPOI	Y	IRPRPC00	
CRPP2003	N	Main 28V switch	CPOI	Y	IRPRPC00	
CRPP2004	N	Pacc Hv switch	CPOI	Y	IRPRPC00	
CRPP2005	N	Grid LV switch	CPOI	Y	IRPRPC00	
CRPP2006	N	Entr HV switch	CPOI	Y	IRPRPC00	
CRPP2007	N	Defl LV switch	CPOI	Y	IRPRPC00	
CRPP2008	N	Defl HV switch	CPOI	Y	IRPRPC00	
CRPP2009	N	Direct cmd sw.	CPOI	Y	IRPRPC00	
CRPP2010	N	WD enabel sw.	CPOI	Y	IRPRPC00	
CRPP2011	N	GAS enable/disable	CPOI	Y	IRPRPC00	
CRPP2012	N	Thruster enable/disabl	CPOI	Y	IRPRPC00	
CRPP2014	N	Compr. switch	CPOI	Y	IRPRPC00	
CRPP2015	N	Alt.Pacc switch	CPOI	Y	IRPRPC00	
CRPP2016	N	Pacc. level	CPOI	Y	IRPRPC00	
CRPP2017	N	Auto red. sw.	CPOI	Y	IRPRPC00	
CRPP2111	N	Boot EEP incl. Context	CPOI	Y	IRPRPC00	
CRPP2112	N	Test pattern	CPOI	Y	IRPRPC00	
CRPP2113	N	Boot EEP excl. Context	CPOI	Y	IRPRPC00	
CRPP2114	N	RPC Internal SID nr	CPOI	Y	IRPRPC00	
CRPP2115	N	Default boot section	CPOI	Y	IRPRPC00	
CRPP2201	N	Deflection level	CPOI	Y	IRPRPC00	
CRPP2202	N	Entrance level	CPOI	Y	IRPRPC00	
CRPP2203	N	SW start level	CPOI	Y	IRPRPC00	
CRPP2204	N	GAS pressure low	CPOI	Y	IRPRPC00	
CRPP2205	N	GAS pressure high	CPOI	Y	IRPRPC00	
CRPP2210	N	Mode cmd	CPOI	Y	IRPRPC00	
CRPP2212	N	Reprog. all EEP sections	CPOI	Y	IRPRPC00	
CRPP2213	N	Reprog. EEP section	CPOI	Y	IRPRPC00	
CRPP2301	N	Opto reference	CPOI	Y	IRPRPC00	
CRPP2302	N	Mcp reference	CPOI	Y	IRPRPC00	
CRPP2303	N	Grid reference	CPOI	Y	IRPRPC00	
CRPP2304	N	Pacc low ref.	CPOI	Y	IRPRPC00	
CRPP2305	N	Pacc high ref.	CPOI	Y	IRPRPC00	
CRPP2306	N	Deflection LV ref.	CPOI	Y	IRPRPC00	
CRPP2307	N	Deflection HV ref.	CPOI	Y	IRPRPC00	
CRPP2308	N	Entrance ref.	CPOI	Y	IRPRPC00	
CRPP2309	N	Noise reduction	CPOI	Y	IRPRPC00	
CRPP2310	N	Fifo low mark	CPOI	Y	IRPRPC00	
CRPP2311	N	Fifo high mark	CPOI	Y	IRPRPC00	
CRPP2312	N	Fifo force mark	CPOI	Y	IRPRPC00	
CRPP2313	N	Fifo clear mark	CPOI	Y	IRPRPC00	
CRPP2530	N	Opto HV monitor	CPOI	Y	IRPRPC00	
CRPP2538	N	Mcp HV monitor	CPOI	Y	IRPRPC00	
CRPP2540	N	Deflection HV monitor	CPOI	Y	IRPRPC00	
CRPP2548	N	Deflection LV monitor	CPOI	Y	IRPRPC00	
CRPP2550	N	Pacc. HV monitor	CPOI	Y	IRPRPC00	
CRPP2554	N	Mcp HV monitor	CPOI	Y	IRPRPC00	
CRPP2558	N	Grid LV monitor	CPOI	Y	IRPRPC00	
CRPP2560	N	Sensor temperature	CPOI	Y	IRPRPC00	
CRPP2568	N	DPU temperature	CPOI	Y	IRPRPC00	
CRPP256C	N	Lower entrance HV mon	CPOI	Y	IRPRPC00	
CRPP2578	N	Post acc HV monitor	CPOI	Y	IRPRPC00	
CRPP2584	N	Deflection HV monitor	CPOI	Y	IRPRPC00	
CRPP2590	N	Deflection LV monitor	CPOI	Y	IRPRPC00	
CRPP259C	N	Sensor temperature	CPOI	Y	IRPRPC00	
CRPP25A7	N	Upper entrance HV mon.	CPOI	Y	IRPRPC00	
CRPP25A8	N	Grid LV monitor	CPOI	Y	IRPRPC00	
CRPP25B4	N	DPU temperature	CPOI	Y	IRPRPC00	

NAME	GCPASS	LNAME	CALTYPE	REVERSIBLE	PTIT_NAME	ADA_NAME
CRPP25B7	N	Lower entrance HV mon	CPOI	Y	IRPRPC00	
CRPP3500	N	Processor Temp	CPOI	Y	IRPRPC00	
CRPP4500	N	Temperature 2	CPOI	Y	IRPRPC00	
CRPP5501	N	MAG Temperature 1	CPOI	Y	IRPRPC00	
CRPP5502	N	MAG Temperature 2	CPOI	Y	IRPRPC00	
CRPP5503	N	B Fld X Component	CPOI	Y	IRPRPC00	
CRPP5504	N	B Fld Y Component	CPOI	Y	IRPRPC00	
CRPP5505	N	B Fld Z Component	CPOI	Y	IRPRPC00	
CRPR0011	N	Keyhole Address	SINT	N	IRPRPC00	
CRPR0012	N	Time Delay	SINT	N	IRPRPC00	
CRPR0013	N	Time Period	SINT	N	IRPRPC00	
CRPR0014	N	FIFO Threshold	SINT	N	IRPRPC00	
CRPR0015	N	Mode Select	SINT	N	IRPRPC00	
CRPR0016	N	When in Acquisition Period	SINT	N	IRPRPC00	
CRPR0017	N	Repetition Interval	SINT	N	IRPRPC00	
CRPV0100	N	1 Bit On/Off	SVAL	Y	IRPRPC00	
CRPV0101	N	1 Bit True/False	SVAL	Y	IRPRPC00	
CRPV0102	N	Connect / Disconnect	SVAL	Y	IRPRPC00	
CRPV0103	N	1 Bit Enable / Disable	SVAL	Y	IRPRPC00	
CRPV0104	N	1 Bit No Error / Error	SVAL	Y	IRPRPC00	
CRPV0105	N	CP Mon Act/Disact	SVAL	Y	IRPRPC00	
CRPV0106	N	MIP Dog Aslp/Actv	SVAL	Y	IRPRPC00	
CRPV0110	N	1 Bit Main / Red	SVAL	Y	IRPRPC00	
CRPV0111	N	1 Bit Norm / Maint	SVAL	Y	IRPRPC00	
CRPV0112	N	RAM Map Flag	SVAL	Y	IRPRPC00	
CRPV0113	N	PROM On / Off	SVAL	Y	IRPRPC00	
CRPV0114	N	Monitor On /Off	SVAL	Y	IRPRPC00	
CRPV0200	N	System ID	SVAL	Y	IRPRPC00	
CRPV1010	N	Opcode	SVAL	Y	IRPRPC00	
CRPV1011	N	CommRate	SVAL	Y	IRPRPC00	
CRPV1121	N	DataType	SVAL	Y	IRPRPC00	
CRPV1126	N	EEPROM Write Flag	SVAL	Y	IRPRPC00	
CRPV1127	N	EEPROM Ready	SVAL	Y	IRPRPC00	
CRPV120D	N	Safe Arm State	SVAL	Y	IRPRPC00	
CRPV1227	N	Clock Selection	SVAL	Y	IRPRPC00	
CRPV1301	N	SetType 1	SVAL	Y	IRPRPC00	
CRPV1303	N	Internal State	SVAL	Y	IRPRPC00	
CRPV1304	N	Communications Mode	SVAL	Y	IRPRPC00	
CRPV1315	N	Counter State	SVAL	Y	IRPRPC00	
CRPV131F	N	Unit ID	SVAL	Y	IRPRPC00	
CRPV1321	N	Set Type 2	SVAL	Y	IRPRPC00	
CRPV132A	N	Checksum Status	SVAL	Y	IRPRPC00	
CRPV132D	N	IES Last executed opcode	SVAL	Y	IRPRPC00	
CRPV132E	N	1 Bit INACTIVE/ACTIVE	SVAL	Y	IRPRPC00	
CRPV132F	N	Mux Control Flag	SVAL	N	IRPRPC00	
CRPV1341	N	SetType 3	SVAL	Y	IRPRPC00	
CRPV1361	N	SetType 4	SVAL	Y	IRPRPC00	
CRPV1421	N	Subsystem	SVAL	Y	IRPRPC00	
CRPV1422	N	DiagType	SVAL	N	IRPRPC00	
CRPV1431	N	IES Mode Cal	SVAL	Y	IRPRPC00	
CRPV1441	N	MagicWord	SVAL	Y	IRPRPC00	
CRPV1512	N	RAM Fill Type	SVAL	Y	IRPRPC00	
CRPV1514	N	Mem Service Error Type	SVAL	Y	IRPRPC00	
CRPV1516	N	Mem Service Info	SVAL	Y	IRPRPC00	
CRPV1538	N	Sequence Error Code	SVAL	Y	IRPRPC00	
CRPV1811	N	MemArea	SVAL	Y	IRPRPC00	
CRPV2181	N	Binary level	SVAL	Y	IRPRPC00	
CRPV2182	N	Yes/No types	SVAL	Y	IRPRPC00	
CRPV2183	N	HV type	SVAL	Y	IRPRPC00	
CRPV2184	N	Pacc type	SVAL	Y	IRPRPC00	
CRPV2185	N	High Voltage	SVAL	Y	IRPRPC00	
CRPV2280	N	Cmd status	SVAL	Y	IRPRPC00	
CRPV2380	N	RPC Internal Sid type	SVAL	Y	IRPRPC00	
CRPV2381	N	Mode	SVAL	N	IRPRPC00	
CRPV3100	N	1 Bit Enabled/Disabled	SVAL	Y	IRPRPC00	
CRPV3101	N	1 Bit Alive/Dead	SVAL	Y	IRPRPC00	
CRPV3108	N	LDL Syncronisation	SVAL	Y	IRPRPC00	
CRPV3109	N	LDL mixed/norm	SVAL	Y	IRPRPC00	
CRPV3300	N	Executing Macro	SVAL	Y	IRPRPC00	
CRPV3303	N	Programming Macro	SVAL	Y	IRPRPC00	
CRPV3307	N	1 Bit Disabled/Enabled	SVAL	Y	IRPRPC00	
CRPV3310	N	LDL mode	SVAL	Y	IRPRPC00	
CRPV3318	N	Probe 2 Density bias range	SVAL	Y	IRPRPC00	
CRPV3319	N	Probe 1 Density bias range	SVAL	Y	IRPRPC00	
CRPV331A	N	Probe 2 ADC 16	SVAL	Y	IRPRPC00	
CRPV331B	N	Probe 1 ADC 16	SVAL	Y	IRPRPC00	
CRPV331C	N	Probe 2 ADC 20	SVAL	Y	IRPRPC00	
CRPV331D	N	Probe 1 ADC 20	SVAL	Y	IRPRPC00	
CRPV331E	N	Probe 2 feed back mode	SVAL	Y	IRPRPC00	

NAME	GCPASS	LNAME	CALTYPE	REVERSIBLE	PTIT_NAME	ADA_NAME
CRPV331F	N	Probe 1 feed back mode	SVAL	Y	IRPRPC00	
CRPV3320	N	MIP/LAP (relay)	SVAL	Y	IRPRPC00	
CRPV3321	N	Internal Boot Strap	SVAL	Y	IRPRPC00	
CRPV3322	N	Probe 2 connected to	SVAL	Y	IRPRPC00	
CRPV3323	N	Probe 2	SVAL	Y	IRPRPC00	
CRPV3325	N	Probe 1 connected to	SVAL	Y	IRPRPC00	
CRPV3326	N	Probe 1	SVAL	Y	IRPRPC00	
CRPV4200	N	LDL synchro	SVAL	Y	IRPRPC00	
CRPV5100	N	1 Bit Inboard/Outboard	SVAL	Y	IRPRPC00	
CRPY0900	N	THERMISTOR	16 Bit	CPOL	Y	IRPICA00
CRPY0901	N	THERMISTOR	16 Bit	CPOL	Y	IRPIES00